

INITIAL STUDY / ENVIRONMENTAL ASSESSMENT



BRIDGE WIDENING PROJECT AT CALLEGUAS CREEK BRIDGE ON STATE ROUTE 1



FEBURARY 2001

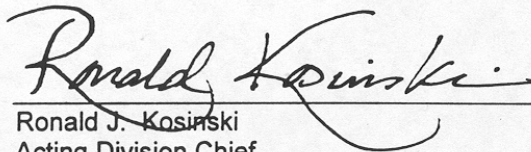
The California Department of Transportation (Caltrans) proposes to Widen Calleguas Creek Bridge on State Route 1 in Ventura County

07 – VEN – 001 KP 15.77 (PM 9.8)
SCH NO. 98101023

INITIAL STUDY / ENVIRONMENTAL ASSESSMENT

State of California
Department of Transportation
And
U.S. Department of Transportation
Federal Highway Administration

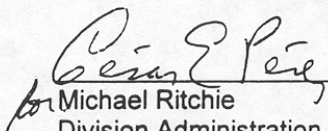
Pursuant to: 42 U.S.C. 4332(2)(C)



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Feb 21, 2001

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1.0 Purpose and Need

The Initial Study/Environmental Assessment (IS/EA) describes the purpose and need for the State Route 1 Bridge Widening Project, addresses alternatives to the project, and characterizes potential environmental effects pursuant to the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

Projects located in California that are undertaken by federal agencies, utilize federal funds or require discretionary approval from federal agencies are subject to both the National Environmental Policy Act (NEPA) (42 USC 4321, et seq.) and the California Environmental Quality Act (CEQA) (PRC 21000-21178.1, et seq.). The basic procedural and policy structure of NEPA and CEQA are similar, and the content requirements for documents implementing NEPA and CEQA are also similar.

1.1 Purpose of the Project

Caltrans is proposing to widen the Calleguas Creek Bridge (#52-0010 L & R) on State Route 1 located approximately $\frac{3}{4}$ of a mile upstream from Mugu Lagoon in an unincorporated area of Ventura County adjacent to Point Mugu Naval Air Station. The project proposes to widen Calleguas Creek Bridge to match the width of the approach roadways and to replace the existing barrier rails with safety-shaped Type 30 concrete barriers.

State Route 1 (Pacific Coast Highway) is functionally classified as a minor two lane arterial freeway and is eligible for designation as a scenic highway. State Route 1 is a two lane coastal highway with occasional turn-outs and passing lanes from the county line to Point Mugu. State Route 1 provides access to and between coastal cities in Los Angeles County and Ventura County. State Route 1 is also used for commuter, recreational and some intra-regional travel. The project site is located on the coastal and agricultural section of Ventura County as shown in Figure 1 and 2a,b.

The purpose of the project is to:

- Improve traffic operations
- Bring the bridge design into compliance with Caltrans' standards
- Enhance safety characteristics

Figure 1. Location Map

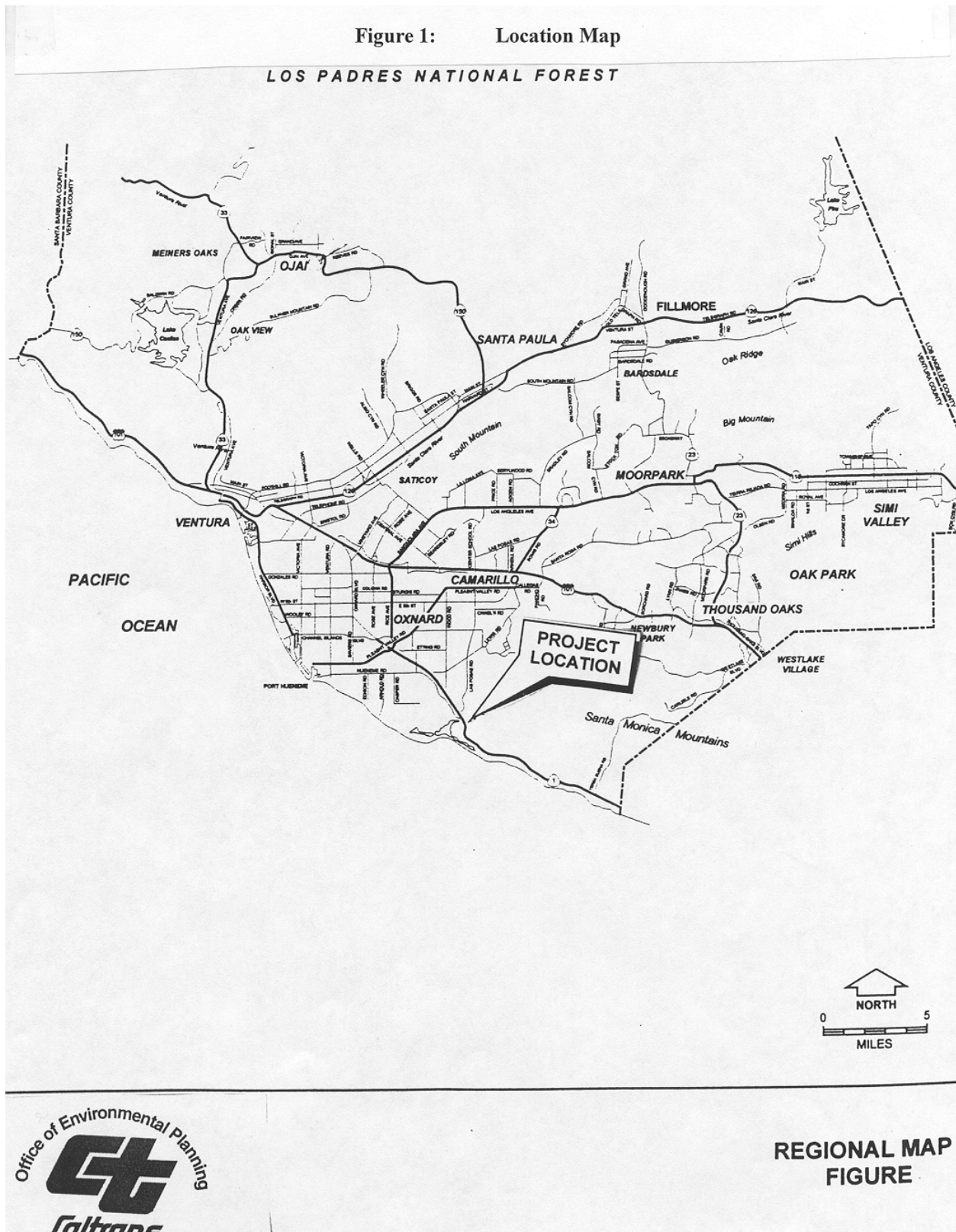


Figure 2a. Vicinity Map



1.2 Need for the Project

1.2.1 Traffic Operations

The 1999 Average Daily Traffic (ADT) volume is 10,900 for both directions. The average daily traffic is the total traffic volume for the year divided by 365 days. The peak month ADT is 11,800 for the month of heaviest traffic flow. The percentage of trucks varies from 4.1% for 5 axle trucks to 72.9% for 2 axle trucks.

As compared to 2020 baseline conditions, Table 1 shows the average daily traffic for 2020, average p.m. and peak-hour highway speed, thereby improving regional mobility.

Table 1. 2020 Traffic Projections

	Northbound	Southbound	Speed
ADT	10,100	10,100	65
AM PEAK	700	900	65
PM PEAK	1250	700	60

The demand will be the same for the No Build alternative, but the speed is reduced to 40 mph during peak period.

1.2.2 Structural Deficiencies

Calleguas Creek Bridge consists of 2 structures, with two lanes per bridge. Calleguas Creek Bridge (Bridge Number 52-0010L) was built in 1957. The existing structure has a variable width concrete girder type structure, with a lane configuration of two 12-foot lanes, a 2-foot left shoulder and a 4-foot right shoulder. It has an 8-span simple reinforced concrete "T" beam with seven reinforced concrete pile bents and reinforced concrete retrofit-end diaphragm abutments all supported on concrete piles. Also, a portion of an auxiliary lane is tapered which gives it an asymmetrical width. This is to be widened to provide a 5-foot left shoulder and a 10-foot right shoulder which would make it consistent with the approach roadway.

Calleguas Creek Bridge (Bridge Number 52-0010R) was built in 1934. It is a continuous concrete reinforced slab type structure with a lane configuration of two 12-foot lanes and two 2-foot shoulders. It has an 8-span continuous reinforced concrete slab with reinforced concrete four pile bents and reinforced concrete retrofit-end diaphragm abutments on driven reinforced concrete piles. This is to be widened to provide a 5-foot left shoulder and a 10-foot right shoulder. Structural data is shown in Table 2.

1.2.3 Safety

TASAS identified three high accident concentration locations namely: PM 11.269/11.469 NB, 12.646/12.849 SB, and PM 13.611 SB off to Nauman Road. Safety Analysis indicated that the accidents in these locations were due to driver errors. None of the accidents were attributed to geometric deficiency.

The Calleguas Creek bridges are subject to frequent overtopping due to inadequate flow area. The flow area of the existing bridges is not adequate for a 50-year flood (Q_{50}). The existing bridges do not meet the minimum required 610mm clearance between Q_{50} water surface and the underside of the

bridge. Overtopping will continue to occur and existing maintenance problems and safety conditions will be the same. Bridge replacement is not programmed at this time for these structures.

The approach roadways each have two 12-foot lanes and 5-foot inside shoulders. The outside shoulder is 8 feet on the northbound bridge and 10 feet on the southbound bridge. The bridge shoulders are narrower than the roadway and don't meet Caltrans current design standards. The existing bridge rails also do not meet Caltrans standard for safety railing.

The typical characteristics and geometric dimensions of the facility to be widened are in Table 2.

Table 2. Highway Geometric Information

Structure		Direction	Number of lanes	Lane Width (feet)	Paved shoulder Width (feet)		Median Width (feet)
					Left	Right	
PM 9.90 (15.77)							
Existing #52-0010	R	NB	2	12'	2'	8'	44'-6"
	L	SB	2	12'	2'	4'	44'-6"
Proposed #52-0010	R	NB	2	12'	5'	10'	41'-6"
	L	SB	2	12'	5'	10'	41'-6"

2.0 Alternatives Including The Proposed Project

Caltrans proposes to widen the State Route 1 bridges over Calleguas Creek in order to bring them in line with current highway standards. The bridges consist of two parallel structures: the north-bound right (R) bridge and the south-bound left (L) bridge. Each bridge is supported by abutments on either end and by seven piers within the creek. Each pier is constructed on piles that are connected by infill walls. These infill walls also run between the piers of the R and L bridges, providing a connection between these structures.

2.1 No Action Alternative

The no-action alternative proposes to maintain the existing conditions without any improvements.

This alternative is not consistent with the long-term objective of improving the overall operation and safety for State Route 1. The existing State Route 1 is inconsistent with Caltrans' and Ventura County's goal of minimizing congestion and maintaining an effective intra-regional mobility system

This alternative was rejected since it would not:

- Improve traffic safety
- Ensure continued mobility of the public
- Facilitate the efficient flow of goods and services through this area,

2.2 Alternative 1

Bridge Number 52-0010L (southbound), shown in Figure 3, has an irregular width concrete girder type structure which has a lane configuration of two 12-foot lanes, 2-foot left shoulder, 4-foot right shoulder and a portion of an auxiliary lane taper which gives it an asymmetrical width. This is to be widened to an irregular width of 39-feet with a 5-foot left shoulder and a 10-foot right shoulder. A typical cross section is shown in Figures 5a and b. The existing bridge railing is to be replaced with safety shaped railings. The estimated cost, in the year 2000, for this alternative is \$997,000. The fund would come from the State Transportation Improvement program (STIP).



Figure 3. Existing Calleguas Creek Bridge- Southbound

Bridge Number 52-0010R (northbound), shown in Figure 4, is a continuous concrete slab type structure which has a lane configuration of two 12-foot lanes and two 2-foot shoulders. This is to be widened to provide a 5-foot left shoulder and a 10-foot wide right shoulder. Safety-shaped railings are to be installed. The approach roadways are to be widened accordingly to match the new width of the structure. Four abandoned wooden piles between the Northbound (NB) and Southbound (SB) bridges at Calleguas Creek are to be removed or cut at the base.



Figure 4. Existing Calleguas Creek Bridge- Northbound

The following construction is proposed:

- Widen the northbound (R) bridge by 2.0m (6.6ft) on the upstream side and 0.48m (1.6ft) on the downstream side using either pre-cast or cast-in-place concrete.
- Widen the southbound (L) bridge by 0.73m (2.4ft) on the upstream side and 2.09m (6.8ft) on the downstream side using either precast or cast-in-place concrete.
- Remove a portion of the existing infill walls on the upstream side of the R bridge, add a pile at each pier and rebuild and extend the infill walls upstream at a 45° angle. This will require sediment excavation.
- Install one pile at each pier along the downstream side of the L bridge.
- The infill walls will be extended downstream of the L bridge to connect with the new piles. This will require excavation of sediment.
- Replace the existing barrier rails with Type 30 concrete barriers.
- Relocate a water line that is currently attached to the downstream side of the L bridge.
- Cut off four submerged wooden piles, located approximately 10m (32.8ft) downstream of the L bridge, just above ground level.
- Minor cuts will be made to the creek banks at the outer edges of each structure in order to construct the widening.

Water diversion and de-watering of the work area will be required for this project to allow equipment and personnel to enter the creek bed for the driving of piles and the construction of falsework. A potential method for accomplishing this is discussed in Section 4.

2.3 Alternative 2

This alternative considers widening only in the median between the R and L bridges. The presence of the infill walls (and piles) between these structures would simplify the project and significantly reduce the need to work within the creek.

This alternative would result in the road making a fairly sharp curve to line up properly with the Revolon Slough Bridges. This would create an unacceptable roadway alignment.

Figure 5a. Typical Section

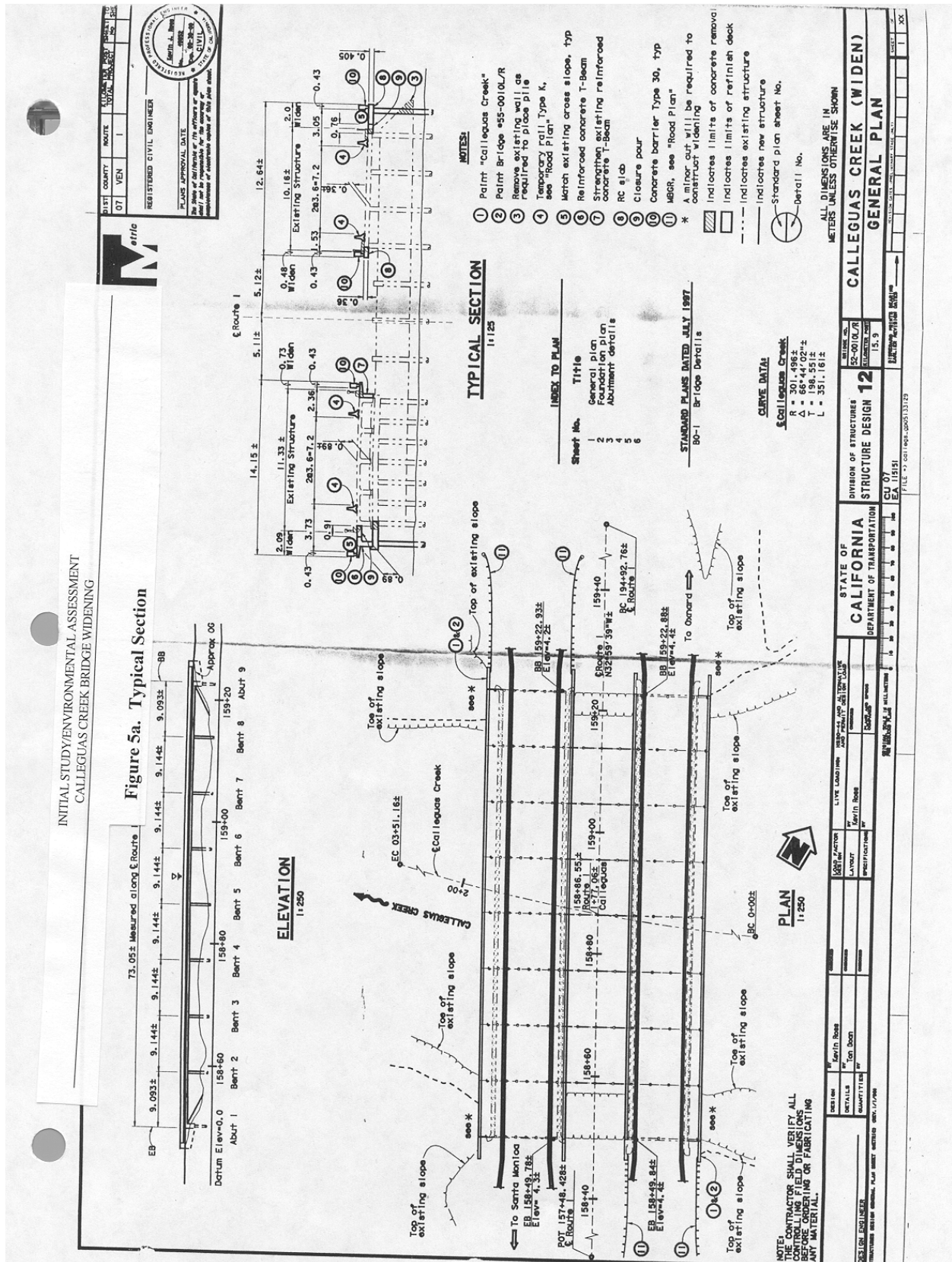
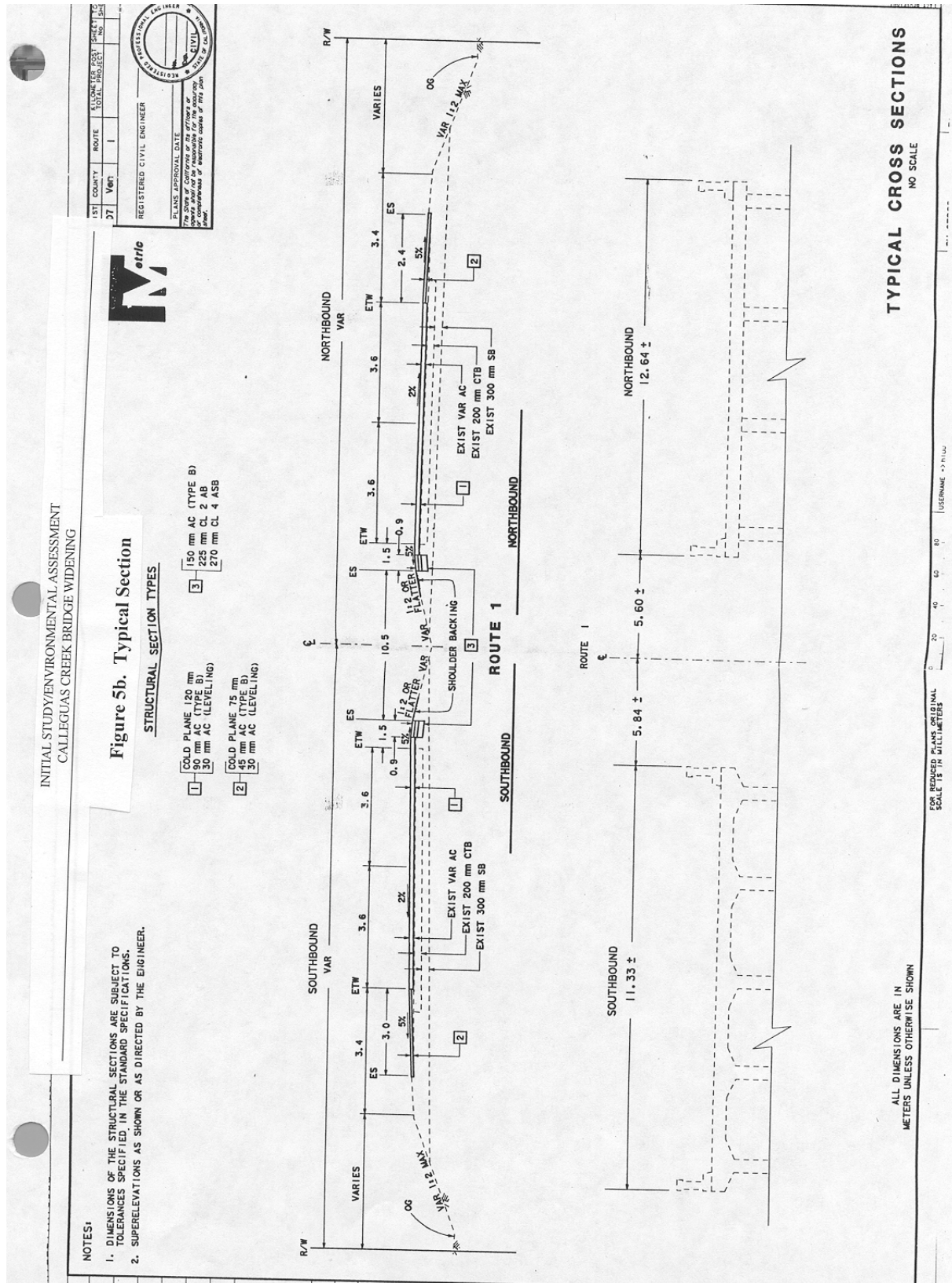


Figure 5b. Typical Section



2.3 Current Status of the Project

This project has been amended into the 2000 SHOPP and programmed into the 2001/2002 fiscal year. The estimated cost for Alternative 1 is \$997,000 in 2000 dollars from the State Transportation Improvement program (STIP).

2.4 Status of Other Projects or Proposals in the Area

The following are Caltrans and non-Caltrans projects in the vicinity of the State Route 1/Calleguas Creek Bridge that are known to be under construction or in the planning stages:

- 1) Caltrans will be rehabilitating the portion of SR 1 from 0.2 kilometers (km) south of Calleguas Creek to 1.3 km south of the Pleasant Valley Rd. overcrossing in the near future (the exact dates are not yet known). Caltrans will also be rehabilitating the stretch of SR 1 south of Calleguas Creek, between Guadaluca Rd. and the Los Angeles County line, sometime during 2001. These are both minor projects that will affect only the paved surfaces and immediately adjacent shoulders.
- 2) Another Caltrans project, pursued jointly with the County of Ventura, is the widening of Lewis Rd. between Ventura Blvd. and Hueneme Rd.; this will include either the widening or the replacement of the bridge over Calleguas Creek (Rincon, 2000).
- 3) Route 101 – Bridge replacement and intersection improvement from Vineyard Ave to Johnson Drive. Responsibility: Caltrans/Oxnard
- 4) New interchanges at Route 101 and Seaward Avenue. Responsibility: Caltrans
- 5) State Route 1/Pleasant Valley Road - reconstruct interchange & extend Rice Ave. Responsibility: Caltrans
- 6) Route 101 and Route 34 (Lewis Road) - reconstruct interchange. Responsibility: Caltrans
- 7) Ventura Freeway U.S. 101: Widen to ten lanes. Responsibility: Caltrans
- 8) Gonzales Rd – Victoria Ave to Patterson Rd – widen roadway. Responsibility: County of Ventura
- 9) Lewis Road – Camarillo Dr to Pleasant Valley Rd- widen roadway. Responsibility: County of Ventura
- 10) Rose Ave – Fifth St to Wooley Rd – widen roadway. Responsibility: City of Oxnard
- 11) Hueneme Rd – Saviers Rd to Arcturus Rd – Widen Roadway. Responsibility: City of Oxnard
- 12) The Naval Air Station (NAS) Pt. Mugu has recently prepared a Draft EIS/OEIS (Overseas EIS) for the various alternatives associated with their proposed modifications to the Point Mugu Sea Range (NAWCWPNS, 2000). This document describes the existing resources and potential impacts from that project.
- 13) The Camrosa Water District will be installing a diversion structure during the Fall of 2000 that will reduce the dry weather water flow in Calleguas Creek by approximately ½.
- 14) The Ventura County Flood Control District periodically mows the vegetation in Calleguas Creek upstream of the State Route 1 bridge. This is usually done once a year, in mid-August, from the State Route 1 bridge north to the Hospital Bridge.

3.0 Affected Environment

3.1 Topography

Calleguas Creek Bridge is situated on State Route 1 on the coast approximately 3/4 of a mile upstream from Mugu Lagoon and 1-1/2 miles from the Pacific Ocean. The highway forms a boundary between the NAS Pt. Mugu to the south-west (downstream) and north-east (upstream) of this area is now either urban or agricultural. Calleguas Creek Bridge is approximately seven miles of the Santa Monica Mountains National Park. Two shallow arms of the Pacific Ocean extend inland creating the Mugu Lagoon, into which drains Calleguas Creek. Mugu Lagoon is one of the largest and most important estuaries and tidal marshes in California.

3.2 Geology

3.2.1 Seismicity

The Calleguas Creek watershed is part of the transverse range geomorphic province of California. Geologic structures generally trend west to east. The closest earthquake fault zone under the auspices of the Alquist-Priolo Earthquake Fault Zoning Act is the Malibu fault and is located 28.0 km (17.5 miles) southeast of the project.

The Malibu Fault marks the boundary between the western Santa Monica Mountains and the Oxnard Plain. It extends from Mugu Lagoon northerly and intersects with the Camarillo Fault near Calleguas Creek and U.S. Highway 101. The existence of the fault is verified by water well data. Also, the Sycamore Canyon and Boney Mountain faults are the most prominent of the series of northeast trending breaks extending from Point Mugu to Thousand Oaks.

3.2.2 Soils

The South Coast, immediately along the coast shows high potential for liquefaction in the areas of Calleguas Creek and Mugu Lagoon. Twelve soil associations are identified in the Calleguas Creek Watershed. The associations have been grouped into three landform divisions: (1) alluvial fans, plains, and basin; (2) terraces; and (3) uplands. Soils of the alluvial fans, plains and basins occupy about 25 percent of the watershed. In the basin, soils are poorly drained loamy sands to silty clay loams. The soils formed in alluvium are derived predominantly from sedimentary rocks and to lesser extent from basic igneous rock.

In the ten mile (16 km) reach of Calleguas Creek above its outlet into the Pacific Ocean, the stream crosses the Oxnard Plain, an alluvial fill which slopes from about 100 feet in elevation down to the ocean. The average gradient across the plain is about 0.20%, but the lower portion has practically no grade. The soil in this flat lower portion originally was very heavily textured and poorly drained. As flood over-wash of sandy soil material becomes incorporated into the original soil, it tends to lighten the texture and improvement of drainage with tile drains. In other portions of the plain the soils are lighter in texture and have very little sub-soil development.

Locally, the Holocene deposits of Calleguas Creek are extensive and contain abundant cohesionless granular materials. The existing bridge is constructed over alluvial deposits consisting of clay, silt and sand of varying admixtures. Based on boring information used in the construction of Bridge No. 52-

248, the soils are unusually soft and loose in the upper 20 feet. Ground water was encountered at a depth of 0.33 m (1.08 ft) on January 4, 1961.

3.3 Water Resources

3.3.1 *Hydrology*

The Calleguas Creek watershed area is 30 miles long and 14 miles wide and drains a watershed of approximately 323 mi² (835 km²), of which 59 mi² (54 km²) is in the Revolon Slough. The principal tributaries to Mugu Lagoon are Calleguas Creek and Revolon Slough. Other tributaries of Calleguas Creek are the Arroyo Simi, Arroyo Las Posas, Conejo Creek and Arroyo Santa Rosa. The water generally flows southerly with an approximate channel slope of 1.3 percent. The channel bed width contracts from about 150 m at 100 m upstream of the bridges to 70 m at the bridges. The contraction slows down the flow at the bridge and deposit sediment induces aggradation of the channel and decreases the waterway. As a result, debris gets caught under the bridge due to the inadequate bridge waterway. The Ventura County Flood Control District accepted the Army Corps of Engineers discharges of 100-year flood 1,130 cubic meters/sec (cm/s) and 50-year flood 850 cm/s. However, the existing bridge flood capacity is inadequate. The maximum capacity of 440 cm/s was estimated and overtopping will, and has occurred. Recent overtopping at the bridges occurred when flows of 750 cm/s in 1983 and 610 cm/s in 1998 were recorded at the Camarillo State Hospital gage station.

In addition, extensive urban development, farmland conversion, and the resulting redevelopment of orchards on steeper slopes has changed the hydrology of the area and led to accelerated erosion rates. Freshwater now flows from the creek into the lagoon all year long due to (1) urban runoff, (2) discharge from wastewater treatment plants, and (3) water importation. The Calleguas Creek area is highly susceptible to minor changes in hydrologic or land use factors because of the widespread occurrence of alluvial fill material through flooding.

3.3.2 *Water Quality*

Calleguas Creek and Mugu Lagoon received a classification of impaired water body from the Los Angeles Regional Water Quality Control Board (RWQCB). Contaminated sediment and turbidity from nonpoint sources of pollution impair the lagoon, Revolon Slough and Calleguas Creek. Revolon Slough is cited with a threat of drinking water impairment. This designation means that impaired water bodies cannot reasonably be expected to attain or maintain applicable water quality standards for designated beneficial uses. High levels of pesticides have been detected in both Calleguas Creek and Revolon Slough. The Los Angeles Regional Water Quality Control Board (Regional Board) has at least two monitoring programs to determine the quality of the water in the tributaries to Mugu lagoon.

3.4 Biological Resources

Study Methodology

Information about the biological resources present within the project limits has been gathered from many sources. Project plans, aerial photographs, U.S.G.S. quad maps and various literature sources were reviewed to obtain information about the project area. Lists of sensitive species potentially occurring in the area were requested from the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) on August 12, 1998 and April 26, 2000. The USFWS responded on September 23, 1998 and May 8, 2000. Lists were not received from CDFG.

However, the CDFG Natural Diversity Data Base (January 2000), which contains information on recorded sightings of sensitive species, was reviewed.

Telephone conversations and meetings with resource agency personnel were also held to discuss issues of concern on this project. Much information was obtained from Tom Keeney, biologist at the NAS Pt. Mugu, who shared the results of the many surveys he has conducted or coordinated in the area.

General field surveys were conducted in June and September of 1997 by Caltrans biologist. Additional surveys were performed by Caltrans biologist in August of 1998 and August of 2000.

A wetland delineation and assessment was conducted on August 3, 2000 to identify the jurisdictional limits of wetlands and waters of the U.S.; the functions and values of the wetlands that might be impacted by this project were also identified. The survey was conducted by Caltrans biologists. It utilized the methods detailed in the 1987 Army Corps of Engineers Wetlands Delineation Manual.

Environmental Setting

The project is located on Hwy. 1 where it crosses Calleguas Creek; it is approximately 3/4 of a mile upstream from Mugu lagoon and 1-1/2 miles from the Pacific Ocean. In this location, Hwy. 1 forms a boundary between the NAS Pt. Mugu to the south-west (downstream) and what is primarily agricultural land to the north-east (upstream) (there are some elements of coastal scrub remaining).

Historically, Calleguas Creek meandered across the Oxnard Plain and discharged onto the Plain, rather than into Mugu Lagoon. However, urban and agricultural pressures led to the creek being channelized and directed into Mugu Lagoon. Prior to that time, Mugu, which is now actually an estuary, was an isolated lagoon with limited freshwater influence.

Presently, the Calleguas Creek Bridge represents the boundary between disturbed and (relatively) undisturbed portions of the creek. Upstream of the bridge, the creek is a channelized flood control structure that is managed by the Ventura County Flood Control District. In the area near the bridge, the creek has grouted rock sides and a soft bottom. The channel is fairly shallow and riparian vegetation grows well there, supported by perennial flows from NPDES permitted discharges, irrigation return flows and normal stormwater run-off. This portion of the creek is also subject to tidal influence.

The vegetation upstream is mowed periodically by the Ventura County Flood Control District to facilitate the rapid flow of water down the channel. Plant species observed in the creek include sedges (*Carex* spp.), rushes (*Scirpus* spp.), mulefat (*Baccharis salicifolia*) and a few small arroyo willows (*Salix lasiolepis*) (see Appendix B for a complete plant list).

The downstream portion of the creek is on NAS Pt. Mugu property. Here, the creek has a soft bottom and sides, and dense vegetation has developed along the banks. The vegetation is dominated by mulefat (*Baccharis salicifolia*), arroyo willow (*Salix lasiolepis*) and sandbar willow (*Salix exigua*). There is also a fair amount of giant reed (*Arundo donax*). Several hundred feet downstream, the Revolon Slough merges with Calleguas Creek; in this location, the southern bank of Calleguas Creek has been reinforced with rock rip-rap to reduce erosion.

One consequence of passing through an agricultural region is that the sediments within Calleguas Creek have become contaminated with organochlorines and various other chemicals associated with farming activities. Despite periodic flushing from storm events, these chemicals have accumulated

over the years and now represent a potential threat to wildlife should they be disturbed and re-suspended in the water column.

The presence of these chemicals, as well as excessive sediments, has led the Regional Water Quality Control Board to designate Calleguas Creek and Mugu Lagoon as impaired waterbodies. This designation means that the water bodies cannot reasonably be expected to attain or maintain applicable water quality standards for designated beneficial uses. Calleguas Creek and Mugu Lagoon have been assigned the following beneficial uses:

Calleguas Creek

- | | |
|--------------------------------|---|
| • Agricultural Supply | Existing |
| • Groundwater Recharge | Existing |
| • Freshwater replenishment | Existing |
| • Warm freshwater habitat | Existing |
| • Wildlife habitat | Existing |
| • Water contact recreation | Existing, with suitable flow conditions |
| • Non-contact water recreation | Existing |

Mugu Lagoon

- | | |
|---|---|
| • Wildlife habitat | Existing |
| • Preservation of rare and endangered species | Existing |
| • Water contact recreation | Existing, but prohibited by the US Navy |
| • Non-contact water recreation | Existing |
| • Saline water habitat | Existing |
| • Marine habitat | Existing |
| • Commercial and sport fishing | Potential |
| • Shellfish harvesting | Potential |

Mugu Lagoon is a coastal salt marsh and is the largest relatively undisturbed salt marsh along the southern California coast. It has been afforded some protection due to its presence on a military installation. However, coastal salt marshes elsewhere have been subject to intense development pressures. Within California, the total acreage has declined by over 90% (NAWCWPNS, 2000). This has lead the CDFG and USFWS to consider them a sensitive resource.

At Mugu, the salt marsh is made up of several different habitat types: intertidal salt marsh, salt panne, intertidal mudflats and sandflats, open water and tidal creeks, and non-tidal salt marsh. In addition, the following non-marsh habitats are present in adjacent areas on the NAS, Pt. Mugu: beaches and dunes, drainage ditches, urban/industrial and mixed transition disturbed (NAWCWPNS, 2000).

The area closest to the Hwy. 1/Calleguas Creek bridge, and most subject to potential impacts from this project, has been classified as mixed transition disturbed (NAWCWPNS, 2000). The Navy describes this as an area where “the native vegetation has been significantly altered by construction or other land-clearing activities, and the species composition and site conditions are not characteristic of disturbed phases of natural plant associations within NAS Pt. Mugu.” A recent survey (August 3, 2000) found the vegetation dominated by coyote bush (*Baccharis pilularis*) and saltbush (*Atriplex*

spp.). Mulefat (*Baccharis salicifolia*) was also plentiful. A more complete species list can be found in Appendix B.

As is typical of coastal salt marshes, Mugu Lagoon is a highly productive area that provides food, cover and nesting areas for a wide variety of species. It is also home to many sensitive species (see below) and a major stop-over for birds on the Pacific Flyway.

Off the coast of Mugu Lagoon, the marine environment represents one of the last remnants of the native rocky shore that once existed in Ventura, Los Angeles and Orange Counties. The area has been designated as an Area of Special Biological Significance by the Regional Water Quality Control Board because of its rich and diverse biota (CRWQCB, 1994).

Sensitive Species

Below are the listed species that have been identified as having the potential to utilize Mugu Lagoon, Calleguas Creek and the surrounding area. The species were identified based on information gathered from species lists obtained from the U.S. Fish and Wildlife Service, the California Department of Fish and Game's Natural Diversity Data Base, the California Wetlands Inventory and Tom Keeney at the NAS Pt. Mugu. The following abbreviations are used to designate special status:

FE = Federal Endangered; FSC= Federal Species Of Concern; FT = Federal Threatened
SE = state endangered; CSC = state species of concern; ST = state threatened
FPE= Federal proposed endangered; SCE= State candidate endangered
MNBMC = US Fish and Wildlife Service federal migratory non-game bird of management concern
FPS = California Department of Fish and Game fully protected species

California least tern (*Sterna antillarum browni*) (FE/MNBMC/SE) - The California least tern is one of three subspecies of least tern that breeds in North America. A migratory species, it nests in colonies from April through August along the coast of California from San Francisco south to Baja California. It presumably winters in Central America, although the specific location of its wintering range is unknown. Its population has declined due to the loss of suitable nesting habitat as a result of increasing levels of human activities on beaches and a concomitant reduction in estuarine foraging areas. This subspecies was listed as endangered by the U.S. Fish and Wildlife Service in 1970 and by the California Department of Fish and Game in 1971.

In 1973, statewide estimates exceeded no more than 600 nesting pairs. A draft Recovery Plan was prepared in 1977, and revised in 1980, with a primary objective of increasing the population to a minimum of 1200 pairs distributed among colonies in at least 20 coastal wetland ecosystems throughout their 1977 breeding range (San Francisco to San Diego). By 1992, their numbers had increased to approximately 2160 nesting pairs in 35 different colonies.

The least tern nests on sandy substrates or upland mudflats, rather than in dense marsh vegetation. The nest is a simple scrape in the sand, frequently located adjacent to an estuary. Prior to chick hatching, foraging occurs primarily in open ocean and nearshore waters. After hatching, foraging shifts to shallower water.

Terns have nested at Mugu Lagoon since about 1931. They generally arrive around the third week of April. They nest along a strip of sand along the far northwestern portion of the naval base. Although they initially forage along the shore, they do begin to forage within the lagoon as the season

progresses. By July or August, the terns are foraging within Calleguas Creek in the vicinity of Hwy. 1. They leave the area by the end of August.

Belding's savannah sparrow (Passerculus sandwichensis beldingi) (FSC/SE) - The Belding's savannah sparrow (BSS) is one of seventeen subspecies of savannah sparrow. The small songbird is endemic to the coastal salt marshes of Southern California and Baja California, Mexico, with a range that extends from the Goletta Slough in the north to El Rosarito in the south.

Populations of this sparrow have declined due to destruction of suitable salt marsh habitat by filling for housing, industrial use, and marina development. It is believed that high levels of disturbance due to human activities in nesting areas may have been a factor in population reductions at some sites.

The BSS is a secretive year-round resident of coastal salt marsh habitats. During the non-breeding season, they may spend much of the day foraging in small flocks on the ground in the upland areas of the marsh. Other times, foraging will occur throughout the marsh, including on mudflats, saltflats and rock jetties.

BSS establish nesting territories in late December to early January. Breeding occurs in March, the first set of eggs are laid in early April and the brood hatches in mid-April. BSS may raise several broods in a season, with the last young leaving the nest by mid-August.

Nesting activity usually takes place in areas dominated by pickleweed (*Salicornia virginica*). Nests are usually constructed a few inches above the ground in the upper littoral zone of tidal marshes; this prevents them from being inundated except during high spring and storm tides. Although foraging activity can range widely across the marsh, individual nesting territories are among the smallest of any North American songbird.

The species appears to be most successful in pickleweed marshes with ample upper-marsh elevations and a full tidal regime that is unobstructed by dikes or culverts. Although it appears to have done well at sites lacking tidal action, these populations are likely at risk because the quality of the habitat will decline over time, particularly if subject to drought or flood conditions.

Although a few BSS do occur in areas close to Calleguas Creek, the vast majority of birds nest along the western arm of the marsh. Birds also nest along the eastern arm, but their numbers are limited by a tidal flow that penetrates deep into the upper marsh into places where BSS might otherwise be expected to nest.

Surveys for territorial males (each male is assumed to represent a nesting pair) have identified the following numbers at the NAS Pt. Mugu: 175 males in 1973, 250 males in 1977; 466 males in 1986; and 958 males in 1994. Although some of the increase in numbers may be attributed to differences in sampling effort or technique, there is clearly an increasing trend in population numbers. In any given year, Mugu contains about 20% of the statewide total number of individuals, making it the single largest BSS population.

This project has the potential to impact this species due to excessive noise and vibration from the use of heavy equipment; in particular, the pile driving equipment is of special concern. The noise from an impact pile driver can be over 100 decibels (dBA) at the source. As with any sudden loud noise, there is the potential for birds (and other animals) to be startled, causing them to flee from the nest leaving eggs or young unprotected. Excessive noise can also interfere with a bird's ability to communicate with other members of its species. Either of these impacts could result in a temporary reduction in nesting success.

Southern Steelhead trout (*Oncorhynchus mykiss*) (FE/CSC) - The present distribution of west coast steelhead trout occurs from the Kamchatka Peninsula, Asia east and south, along the Pacific coast of North America, to Malibu Creek in Southern California. This distribution has been divided into 15 Evolutionarily Significant Units (ESUs), based on genetics, phylogeny and life history, freshwater ichthyogeography and environmental features. Each ESU represents a distinct population of steelhead, which migrate to certain streams and drainages from generation to generation.

The Southern California ESU extends from the Santa Maria River, in San Luis Obispo County, to the southern extent of the species range (currently thought to be Malibu Creek in Los Angeles County, although there has been a recent report of steelhead from San Diego County). Historically, they may have occurred as far south as Rio del Presidio in Mexico. This ESU was listed as endangered by the National Marine Fisheries Service (NMFS) on October 17, 1997 (NMFS, 1997).

Fish within the Southern California ESU are considered “winter-run”, or ocean-maturing steelhead. These anadromous fish are born in fresh water, where they typically spend two years before migrating to the ocean. After spending two or three years in the ocean, they then return to their natal stream to spawn as four or five year-olds. Migration within this ESU generally occurs from September through June. Spawning takes place from December through June, with a peak during the months of February and March.

Critical Habitat (CH) is defined as those areas both inside and outside of the geographical area occupied by the species in which are found the physical or biological features that are 1) essential to the conservation of the species and 2) which may require special management considerations or protection. CH was designated for the Southern California ESU on February 16, 2000 (NMFS 2000), and includes those river reaches and estuarine areas accessible to steelhead in coastal river basins. However, the Calleguas Creek hydrologic unit (watershed) was excluded from the designated CH because it does not contain river reaches inhabited by the ESU.

There is no historical record of steelhead trout using either Mugu Lagoon or Calleguas Creek. It is therefore highly unlikely that this project would result in any impact to this species.

Light-footed clapper rail (*Rallus longirostris levipes*) (FE/SE/FPS) - The light-footed clapper rail is one of three subspecies that are found in California. It occurs along the Pacific Coast from Bahia de San Quintin, Baja California, north to Carpenteria Marsh, in Santa Barbara County. Along this stretch of coast it is found in salt marshes that are traversed by tidal sloughs, where cordgrass (*Spartina* spp.) and pickleweed (*Salicornia* spp.) are the dominant vegetation; it requires a dense growth of either of these two species to provide nesting or escape cover. It feeds on molluscs and crustaceans.

This rail has declined due to the destruction of suitable salt marsh habitat by filling for housing, industrial use and marina development. It has also been impacted by water pollution, which has affected its prey species and degraded habitat. In addition, many of the remaining salt marshes occur within urban settings, where species such as this can be subject to high rates of predation from introduced and/or unbalanced predator populations.

There are currently nine individuals of this species residing at Mugu Lagoon. They can be found year-round in the area south of the lagoon’s west arm. Suitable habitat also exists north of the west arm and near the area where Calleguas Creek enters the lagoon. This species does not forage in Calleguas Creek.

Western snowy plover (*Charadrius alexandinus nivosus*) (FT/MNBMC/CSC) - The coastal population of the western snowy plover breeds from southern Washington to southern Baja California.

It has declined mainly because of human disturbance, including recreational beach use, to the point where it was listed as federally threatened on March 5, 1993. This plover breeds from early March to late September, primarily on coastal beaches; however, the margins of salt evaporation and agricultural ponds and interior lakes are also used. The nest sites are located in flat open areas without cover or only sparsely covered with vegetation or driftwood. A sandy, gravelly or friable soil substrate is required for nesting.

Typically, this species forages on invertebrates in wet sand in the intertidal zone, on dry sandy areas above high tide, and along the edges of salt marshes. At Mugu Lagoon, these birds nest and forage in a narrow strip adjacent to the ocean; the nearest location is approximately one mile from the project site.

Mugu Lagoon beach has been designated as Critical Habitat for this species. In the December 7, 1999 Final Rule (USFWS, 1999), "contamination events" (such as oil spills or chemical releases) was listed as one of seven general categories of activities that could adversely affect critical habitat (in this case, by contaminating snowy plovers and/or their food sources).

Mountain Plover (*Charadrius montanus*) (FPT/MNBMC/CSC) - Individuals of this species breed in the Rocky Mountain States from Canada south to Mexico; wintering occurs primarily in California on grasslands, or landscapes resembling grasslands, and cultivated fields. Short vegetation, bare ground and a flat topography are recognized as habitat-defining characteristics at both breeding and wintering locales. Mountain plovers are rarely found near water.

Mountain plovers begin arriving on wintering grounds in California by September, but do not appear in large numbers until November. The Spring migration back to the breeding grounds begins in mid-March. In the general vicinity of this project, they are known to utilize the short grass and sod fields of the Oxnard Plains.

Southwestern pond turtle (*Clemmys marmorata pallida*) (FSC/CSC/FPS) - The southwestern pond turtle is found throughout California west of the Cascade-Sierra Nevada crest, from San Francisco Bay south to Baja California. It is the only fresh water turtle species native to California. Although it can tolerate seawater for short periods, the species mostly occurs in fresh to brackish water.

It is generally found in the quiet waters of ponds, marshes, rivers and streams that have a rocky or muddy bottom and contain aquatic vegetation. It requires basking sites such as submerged logs, rocks, mats of floating vegetation, or open mud banks, and is often seen basking in the sun. Associated with permanent or nearly permanent water in a wide variety of habitat types, it is found at elevations ranging from sea level to 6000 feet (1830m).

Pond turtles may live for 30 to 40 years and may take up to 8 years to reach sexual maturity.

Mating occurs in April and May, after which females build nests along wetland margins or in adjacent uplands. Oviposition requires soil that is at least 10 cm deep, and usually takes place in a southern exposure at a site which will not flood. Females leave the watercourse in late afternoon and evening, and travel into adjacent wetland margins or uplands to build nests. Oviposition occurs in July and August, with hatchlings emerging in approximately 12 weeks.

The area upstream of the Hwy. 1 bridge is considered potential habitat that has historically supported pond turtles. However, changes in land use practices have removed all suitable habitat from the area. On the NAS Pt. Mugu, they can be found along the western boundary of the base. Although not likely, it is possible that the turtles could move into the vicinity of the Calleguas Creek Bridge.

CA brown pelican (*Pelecanus occidentalis californicus*) (FE/SE/MNBMC/FPS) – The brown pelican was placed on the state and federal endangered species lists (1971 and 1970, respectively) following a sharp reduction in its population caused by chemical pollutants, primarily DDT and DDE. However, the species has made a significant recovery, mainly due to the banning of DDT in the U.S. Although Anacapa Island is home to the only nesting colony in California, the brown pelican is now a fairly common non-breeding resident along the Southern California coast.

At Mugu, brown pelicans roost primarily along the ocean shoreline, approximately 1-1/2 miles from the project area. They forage in the nearshore waters of the ocean as well as in all areas of the lagoon, including Calleguas Creek. Foraging activity near the Hwy. 1 bridge occurs from approximately June through August, with the amount of activity gradually increasing during this time. However, the birds are not known to move upstream of the bridge.

Tidewater goby (*Eucyclogobius newberryi*) (FE) - The tidewater goby is almost unique among fishes along the Pacific coast because of its restriction to waters with low salinities in California's coastal wetlands. This goby does not have a marine life history phase and all life stages are found at the upper end of lagoons in salinities of less than 10 parts per thousand. This lack of a marine phase severely restricts the frequency of genetic exchange between coastal lagoon populations and significantly lowers the potential for natural recolonization of a locality once extirpated.

This species has a discontinuous distribution throughout California, ranging from Tillas Slough in Del Norte County south to Agua Hedionda Lagoon in San Diego County. There are currently only 16 extant populations south of Point Conception. Mugu Lagoon contained a population until approximately 1955; that's the year that their presence was last noted. More recently, surveys were conducted at three locations in the lagoon (back, mid and mouth) each Fall between 1994 and 1997 by scientists at UCLA; they failed to locate any individuals. The tidewater goby must therefore be considered extirpated from Mugu Lagoon.

Salt-marsh bird's beak (*Cordylanthus maritimus maritimus*) (FE/SE) - This is a small annual plant with cream-colored flowers. It grows in salt marsh habitats from San Luis Obispo south to northern Baja California. It generally grows on slightly raised hummocks within the marsh. Loss of habitat has led to this species being listed as endangered by both the US Fish and Wildlife Service and the California Department of Fish and Game.

This species is present at the NAS Pt. Mugu. However, it is only located along the southern and western border of the base, well away from the project area.

Ventura Marsh Milk-Vetch (*Astragalus pycnostachyus* var. *lanosissimus*) (FPE/SCE) - This herbaceous perennial was historically known from coastal Orange, Los Angeles and Ventura Counties. It was believed to be extinct until it was rediscovered in 1997. The only known extant population, which contained approximately 374 individuals in 1997, occupies less than one acre and is located in degraded dune habitat near the City of Oxnard in Ventura County.

Little is known about the habitat requirements of this species. The newly discovered population occurs in a sparsely vegetated low area, at an elevation of 30 feet. The dominant shrub species at the site are coyote brush, mule fat, arroyo willow and myoporum; coyote brush, mule fat and several non-native species provide patchy vegetative cover for individuals within the population. The soils are loam-silt loams.

Although this species has never been observed there, the NAS Pt. Mugu may contain appropriate habitat. The USFWS and CDFG are exploring this area as a potential reestablishment site. In

particular, a location to the northwest of Revolon Slough and Hwy. 1 is being considered. This site is well outside of the area affected by this project.

American peregrine falcon (*Falco peregrinus anatum*) (SE) - This is one of three subspecies of peregrine falcons in North America and the only one that breeds in California. It is very widespread, occurring from Alaska south to Baja California and east to the Atlantic Ocean. It is a cosmopolitan species that is characteristic of open spaces, but has adapted to a variety of conditions, including metropolitan areas. Nesting peregrines are found in a variety of habitats including marine, desert, chaparral and montane areas. They typically exhibit high site fidelity when nesting.

Populations of this sub-species declined severely during the 1950's and 60's. This was primarily due to chlorinated pesticides and their breakdown products, especially DDT and DDE, which resulted in poor reproductive success due to eggshell thinning or otherwise nonviable eggs. Habitat destruction and collection of young and adults for falconry also contributed to the peregrine's decline.

The American peregrine falcon was listed as endangered by the US Fish and Wildlife Service in 1970 and by the California Department of Fish and Game in 1971. Since that time, the population of the species has increased significantly throughout its range; it was de-listed by the USFWS on August 25, 1999.

There are several nesting pairs of peregrines at the Pt. Mugu NAS. The nests are all located well away from the project site. These birds do however, cover large areas when hunting, and they are known to utilize the areas near the bridge.

Arroyo chub (*Gila orcutti*) (FSC/CSC) - The native range of the arroyo chub within Southern California includes Malibu Creek, and the Santa Clara, San Luis Rey, and Santa Margarita River drainages. It experienced an artificial range expansion in the 1930s and 1940s when it was introduced into other watersheds as bait with trout plants.

This species is an omnivorous grazer, feeding on algae and other plants as well as on small crustaceans and aquatic insect larvae. It prefers slow moving sections of streams with sandy or muddy bottoms. It is considered scarce within its native range because it does best in the lower gradient streams that have largely disappeared. It continues to be threatened by stream channelization, sand and gravel mining, and flood control activities.

The arroyo chub is a freshwater species that was observed in a tributary of Mugu Lagoon during surveys in 1993 but not in 1995. As expected, it was not detected in Mugu Lagoon by UCLA researchers between 1994 and 1997. It is not expected to occur in the brackish waters of Calleguas Creek.

Harbor seal (*Phoca vitulina richardsi*) - Although not officially listed by the USFWS or the CDFG, harbor seals are protected under the Marine Mammal Protection Act. This species is known to use the beach and sand bars near the mouth of the lagoon for hauling out and pupping.

Cliff Swallow (*Hirundo pyrrhonota*) - The Cliff swallow is a neo-tropical migrant that is common to open to semi-wooded country, farms, cliffs, canyons, rivers and lakes. It is present in Southern California during the nesting season, roughly from mid-February to early September. They travel in large flocks and can form nesting colonies of up to several thousand individuals. This opportunistic species frequently builds nests on man-made structures near water, such as concrete dams, bridges and culverts. The gourd-shaped structure is built of mud pellets and is accessed through a narrow neck built on the side or top of the structure. The nest is lined with grasses and feathers.

The cliff swallow is protected at the federal level under the Migratory Bird Treaty Act. It is also protected at the state level by the Fish and Game Code, where it is considered a non-game bird. According to the Fish and Game Code (Section 3800), it is unlawful, with some exceptions, to “take” (hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill) any non-game bird. It is also unlawful (Section 3503) to “take”, possess, or needlessly destroy the nest or eggs of any bird. Cliff swallows are known to nest on the Calleguas Creek bridges.

Two-striped Garter Snake (*Thamnophis hammondi*) (CSC/FPS) - This species is found in coastal California from approximately Salinas to northwest Baja California at elevations ranging from sea level to 7,000 feet. It is highly aquatic and is found in and near permanent freshwater, often along streams with rocky beds and riparian growth. This snake occurs in oak woodland, mixed oak and chaparral environments, as well as pastures and fields, as long as water is present.

It has been threatened primarily by the loss of wetland habitats in Southern California. However, the disappearance of amphibians (food source) and water pollution may also be contributing to the decline in its population.

The closest sighting that is reported in the NDDDB is in Conejo Creek, a tributary to Calleguas Creek, about 1000 yards upstream from Hwy. 101. This sighting was located approximately 5 miles upstream from the project site.

Because of this species’ requirement for freshwater, it is unlikely that it will be encountered in the brackish water at the project site.

Additional Species:

The following special status species are listed in the California Wetlands Inventory for Mugu Lagoon as having been observed in the vicinity of the project area at some point during the last several years. They will not be affected by this project for the reasons stated below.

Ashy storm petrel (*Oceanodroma homochroa*) (CSC/MNBMC) - This seabird occurs year-round off the Southern California coast. Its breeding grounds are on offshore islands. Because it does not occur directly within or adjacent to Mugu Lagoon, this species will not be affected by this project.

Black storm petrel (*Oceanodroma melania*) (CSC) - This seabird is a summer resident off the Southern California coast. It breeds on Santa Barbara Island. Because it does not occur directly within or adjacent to Mugu Lagoon, this species will not be affected by this project.

American white pelican (*Pelecanus erythrorhynchos*) (CSC) - This migratory species winters on large coastal bays and lagoons in Southern California. It was observed at Mugu by UCLA researchers during the fall of 1997 (but not in ’94, ’95, or ’96).

Double-crested cormorant (*Phalacrocorax auritus*) (CSC) - This species winters along the Southern California coast.

Western least bittern (*Ixobrychus exilis hesperis*) (FSC/CSC) - This species requires dense freshwater marshes with tules and cattails. It is present at Mugu sporadically during the breeding season.

White-faced ibis (*Plegadis chihi*) (FSC/CSC/MNBMC) - This species occurs at freshwater marshes, near the borders of lakes, in cultivated fields (especially when irrigated or flooded) along irrigation canals and ditches, and very rarely at saltwater marshes and estuaries. The major concentrations of this species in Southern California are found in the Imperial Valley.

Fulvous whistling duck (*Dendrocygna bicolor*) (FSC/CSC) - A very rare visitor along the Southern California coast, this species occurs at shallow freshwater lakes, ponds, rivers and marshes with dense stands of tall aquatic vegetation. It also occurs rarely in open flooded agricultural fields.

Harlequin duck (*Histrionicus histrionicus*) (FSC/CSC) - Occurs in coastal areas along the length of the state, but breeds inland. During the non-breeding season it can be found along the inshore seacoast and occasionally on coastal lagoons and estuaries.

Barrow's goldeneye (*Bucephala islandica*) (CSC) - An extremely rare winter visitor along the Southern California coast.

Osprey (*Pandion haliaetus*) (CSC) - Osprey occur along the Southern California coast most frequently as uncommon spring and fall transients and winter visitors. Surveys by UCLA researchers during the fall and spring of each year between 1994 and 1998 identified osprey as being present at Mugu only during the fall of 1997. The nearest known nesting area is at Lake Casitas, well outside the project area.

Northern harrier (*Circus cyaneus*) (CSC) - Observed at Mugu by UCLA researchers during the fall of '94, '95 and '96 but never during the spring, the northern harrier's habitat includes saltwater and freshwater marshes, and agricultural lands, among other areas.

Swainson's hawk (*Buteo swainsoni*) (ST) - An uncommon spring and fall transient, this species is generally found while foraging or during migration in interior open country at lower elevations. Breeding occurs in broken woodlands savannah, grasslands with scattered trees and agricultural areas with groves of trees. This species is not expected to be affected by this project.

Greater sandhill crane (*Grus canadensis tabida*) (ST/FPS) - A rare and irregular winter migrant along the Southern California coast. Wintering birds utilize agricultural fields, grain fields, grasslands and open areas at the edges of large freshwater lakes and rivers. This species is not expected to be affected by this project.

Long-billed curlew (*Numenius americanus*) (CSC/MNBMC) - A migrant that occurs along the Southern California coast during the winter. They prefer tidal mudflats with soft penetrable mud, estuaries, saltwater marshes with tidal channels and grasslands and agricultural fields with short grass. They are rarely found on sandy beaches.

Laughing gull (*Larus atricilla*) (CSC) - This species breeds in Mexico and is a very rare and irregular visitor along the Southern California coast throughout the year, with the majority occurring there in winter.

California gull (*Larus californicus*) (CSC) - A common spring and fall migrant, this species was observed at Mugu by UCLA researchers during the fall of '95, '96, '97 and the spring of 1998. The non-breeding habitat of this species is the most diverse of any California gull and includes estuaries, saltwater marshes and irrigated agricultural lands.

Elegant tern (*Sterna elegans*) (FSC/CSC/MNBMC) - The habitat for this species includes the seacoast, estuaries, bays and harbors. The species has three breeding colonies, located at Isla Rasa in the Gulf of California, a site near San Diego and at Bolsa Chica in Orange County. It can be seen in this area during the summer following post-breeding dispersal. UCLA researchers have observed the elegant tern at Mugu on several occasions during spring and fall surveys.

Black tern (*Chlidonias niger*) (FSC/CSC/MNBMC) - A spring and fall migrant, this species may use Mugu Lagoon as a stop-over during migrations. It may also be a very rare winter visitor in coastal

Southern California. The habitat for the black tern primarily includes freshwater lakes, ponds and marshes but they are frequently seen at coastal lagoons and estuaries during migration.

Black skimmer (*Rynchops niger*) (CSC) - Usually a spring and fall transient, small numbers of wintering birds have been seen recently along the coast as far north as Goleta. This may represent the precursors of a northward movement of the breeding population. This species feeds in lagoons, diked ponds, tidal channels and generally undisturbed shallow waters, usually near the coast. Breeding habitat includes low islets, artificial sand flats, dry mudflats and dikes. This species has been frequently observed at Mugu by UCLA researchers during the spring and fall.

Northern Xantus' murrelet (*Synthliboramphus hypoleucus hypoleucus*) (FSC/CSC/MNBMC) - This subspecies breeds on islands off of Baja California and can be seen irregularly during late summer and early fall as far north as Monterey Bay. Small numbers remain in Southern California waters from September to February. This is an open ocean species and is rarely seen from the mainland. This species is not expected to be affected by this project.

Rhinoceros auklet (*Cerorhinca monocerata*) (CSC) - This species breeds on offshore islands and coastal seacliffs. During the non-breeding seasons it frequents open ocean and inshore waters. It is not expected to be affected by this project.

Large-billed savannah sparrow (*Passerculus sandwichensis rostratus*) (FSC/CSC) - This species breeds along the Gulf of California and is a rare to very uncommon fall and winter visitor (mid-July to early April) along the immediate coast between Santa Barbara County and the Mexican border. It can be found at these times within salt marshes, on beaches along the strand line, among beach wrack and on piers, reefs and breakwaters. It is not expected to be affected by this project.

Tricolored blackbird (*Agelaius tricolor*) (FSC/CSC/MNBMC) - These highly gregarious birds breed from mid-April to late May, primarily in freshwater marshes with dense stands of cattails and/or bulrushes. Although the location of small colonies often shift from year to year, depending on marsh conditions, they have been found at Pt. Mugu. Foraging during the breeding season occurs over agricultural lands. During the fall and winter, the flocks become nomadic and lose cohesiveness. This species is not expected to be impacted by this project because there are no freshwater marsh areas located near the project site.

Sensitive Habitats

Coastal salt marsh

As mentioned previously, coastal salt marshes are considered a sensitive resource by the CDFG and USFWS. Although this project will not occur directly within the marsh, it will be carried out within a tidal creek that flows into the marsh. If contaminated sediments are re-suspended and allowed to flow downstream, it could have a negative effect on water quality (which is already poor) and on all organisms that live in or otherwise utilize the marsh. To reduce the potential for impacts, appropriate steps will be taken, as outlined in Section 4.1.4, to prevent the re-suspension of contaminants.

Wetlands

A wetland delineation and assessment was conducted during low tide on August 3, 2000 to identify the jurisdictional limits of wetlands and waters of the U.S; the functions and values of the wetlands that will be impacted by this project were also identified. The methods detailed in the 1987 Army Corps of Engineers Wetlands Delineation Manual were used.

ACOE jurisdiction is limited to waters of the U.S., which is considered to be those areas within a waterway or water body at or below the Ordinary High Water Mark. Federal wetlands are a subset of those waters which, under normal circumstances, are identified by the presence of wetland hydrology, hydric soils and hydrophytic vegetation.

CDFG jurisdiction under Section 1601 of the Fish and Game Code extends from the top of bank to top of bank, or to the limits of the riparian vegetation, whichever is farther. The presence of hydrophytic vegetation with the proper hydrology is enough to indicate the presence of a state wetland.

The project area is subject to tidal influence and the entire creek bed is covered by water at least twice per day during the higher high tides. The presence of a solid black layer in most areas just below the surface and the smell of sulfur indicate that anaerobic conditions sufficient to produce hydric soils are present.

Although some areas of soil exposed during low tide are bare, hydrophytic vegetation is present throughout much of the creek bed and within the riparian strips along the banks. It can be assumed, however, that all areas outside the low flow channels will support hydrophytic vegetation under normal circumstances.

Since the hydrology component is obviously present, the entire creek bed below the ordinary high water mark, with the exception of the low flow channels, can be assumed to be a federal wetland. This area can be extended up the banks to the edge of the riparian vegetation to denote the limits of the state wetland.

Essential Fish Habitat

In 1996, the Magnuson-Stevens Fishery Conservation and Management Act was amended to set forth new mandates for the NMFS, fishery management councils, and other federal agencies to identify and protect important marine and anadromous fish habitat. The Councils, with assistance from the NMFS, are required to delineate “essential fish habitat” (EFH) within each fishery management plan (FMP) for all federally managed species. Federal agencies which fund, permit or carry out activities are now required to consult with NMFS to ensure that their actions do not adversely affect EFH.

EFH is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” Off the west coast of California, EFH has been identified for species within the Coastal Pelagic, Pacific Salmon and Pacific Groundfish FMPs. Two of these FMPs (Coastal Pelagic and Pacific Groundfish) apply to species found off the coast of Pt. Mugu.

3.5 Air Quality Characteristics

The Air Pollution Control Program for the County is directed by the Ventura County Air Pollution Control District (APCD) in coordination with, and as part of, the Federal, State and regional air pollution control efforts. The APCD is organizationally within the Resource Management Agency and is governed by the Air Pollution Control Board (Board of Supervisors). At the regional level, Ventura County is part of the South Central Coast Air Basin. See Figure 6.

Figure 6. South Central Coast Air Basin



The Federal Clean Air Act (CAA) establishes federal air quality standards known as the National Ambient Air Quality Standards (NAAQS) and specifies future dates for achieving compliance (see Table 3). The CAA also mandates that the State submits and implements the State Implementation Plan (SIP) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. The California Clean Air Act (CCAA) requires all areas of the State to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. These standards encompass the most common varieties of airborne materials, which can pose a health hazard to the most sensitive individuals in the population. Pollutants for which ambient standards have been set are referred to as “criteria pollutants”; Ozone (O₃), Carbon Monoxide (CO), Nitrogen Dioxide (NO₂), Particulate Matter (PM₁₀).

Table 3. Health-based Ambient Air Quality Standards

Pollutant	National Standards	California Standards
Ozone	.08 ppm* (8-hr avg) .12 ppm (1-hr avg)	.09 ppm (1-hr avg)
Carbon Monoxide	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)
Nitrogen Dioxide	.053 ppm (annual avg)	.25 ppm (1-hr avg)
Sulfur Dioxide	.03 ppm (annual avg) .14 ppm (24-hr avg) .5 ppm (3-hr avg)	.04 ppm (24-hr avg) .25 ppm (1-hr avg)
Lead	1.5 µg/m ³ ** (calendar qtr)	1.5 µg/m ³ (annual avg)
Particulate Matter (PM₁₀)	50 µg/m ³ (annual avg) 150 µg/m ³ (24-hr avg)	30 µg/m ³ (annual avg) 50 µg/m ³ (24-hr avg)
Particulate Matter (PM_{2.5})	15 µg/m ³ (annual avg) 65 µg/m ³ (24-hr avg)	

*ppm = parts per million

**µg/m³ = micrograms per cubic meters

Ventura County does not meet the federal air quality standards for ozone. It also exceeds the state standards for ozone and particulate matter. The requirements for cleaner vehicles and fuels have been primarily responsible for the reductions in CO, despite increases in population and the number of vehicle miles traveled each day. Ventura County has two gauging stations in Simi Valley and El Rio. Simi Valley has the greatest potential for elevated CO concentrations due to strong surface and subsidence inversions frequently occur in this inland valley. This coupled with large traffic volumes, result in elevated CO levels. El Rio, which lies closer to the coast, experiences stronger sea breezes and weaker inversions than Simi Valley. Thus, CO levels observed at El Rio are lower than those observed in Simi Valley. Elevated CO levels have rarely been observed near the coast.

The proposed project is located in Ventura County Air Pollution Control District (APCD), which is designated as a non-attainment area for federal and state standards for Ozone, Carbon Monoxide, and Particulate Matter. Refer to Table 4 for Local Air Quality Levels measures at the El Rio - Oxnard Ambient Air Monitoring Station. Table 4 provides the results of the annual review of the air monitoring stations in at the El Rio - Oxnard. These stations house monitoring instruments that measure ambient levels of gaseous and particulate air pollutants. Table 4 includes air quality monitoring data are available for each pollutant at this site. The monitoring station shows: (1) the highest pollutant concentrations; (2) the impact of major pollution emissions sources.

A number of air quality indicators are used in Table 4, representing both measured values and statistically derived values. In general, the 1-hour, 8-hour, and 24-hour average concentrations, the annual averages, and the number of days above the state and national standards are measured values. In contrast, the peak indicator values were statistically derived from the measured data. The peak indicator represents the maximum concentration expected to occur once per year. This indicator is based on a statistical calculation using the ambient data collected at each monitoring site in the area. It is a calculated value, not an actual measured concentration. However, because it is based on a statistical calculation, it is more stable, thereby providing a trend indicator that is not highly influenced by year-to-year changes in meteorology. In general, the air quality trends in this table represent data that have been gathered at this monitoring site to characterize the air quality in this particular region.

The adopted strategies and methods for enhancing the County's air quality are listed in the Air Quality Management Plan. These measures are implemented through conditions of approval of discretionary entitlements and the goals, policies and programs of the General Plan. In addition, an air quality assessment is required for Regional Transportation Plans (RTP). The Southern California Association of Governments (SCAG) prepares the RTP for nonattainment and maintenance areas. SCAG has coordinated their RTP development with the Air Resources Board to insure conformity with the SIP.

Table 4. Local Air Quality Levels at the El Rio - Oxnard Ambient Air Monitoring Station 1998

Location	Carbon Monoxide						Particulate Matter (PM ₁₀)					
	Max Conc In ppm 1-hr	Max Conc in ppm 8-hr	# of days standard exceeded				# of samples	Max Conc in μg/m ³ (24-hr)	# of samples Standard Exceeded (24-hr)		Annual Average	
			State >20 ppm 1-hr	State >9.0 ppm 8-hr					Federal >150μg/m ³	State > 50μg/m ³	AAM Conc μg/m ³	AGM Conc μg/m ³
El Rio – Oxnard	3.7	2.0	0	0			59	70	0	1	23.0	19.5
Location	Ozone						Nitrogen Dioxide		Sulfur Dioxide			
	Max Conc In ppm 1-hr	Max Conc in ppm 8-hr	4 th High Conc in ppm 8-hr	# of days standard exceeded			Max Conc in ppm 1-hr	# of days standard exceeded	Max Conc in ppm 1-hr	Max Conc In ppm 24-hr	# of days standard exceeded	
				Federal >0.12 ppm 1-hr	Federal >0.08 ppm 8-hr	State >0.09 ppm 1-hr		State >0.25 ppm 1-hr			State >0.25 ppm 1-hr	State >0.05 ppm 24-hr
El Rio – Oxnard	0.106	0.084	0.072	0	0	1	0.088	0	0.02	0.012	0	0

3.6 Hazardous Waste

An Initial Site Assessment (ISA) was conducted on October 26, 2000 and January 4, 2001, to identify potential contaminants that may affect the project area. Potential contaminant sources were performed by 15 hand-auger soil borings, an asbestos containing material, monitoring well installations, groundwater and surface water analysis, creekbed sediment sampling and laboratory analysis. Discussion of impacts are discussed in Section 4.

3.7 Community Setting

In 1862 there was no defined channel below what is known as Highway 101 near Camarillo. In 1884, local landowners channeled the creek which effectively drained the plain and averting flows directly to the lagoon. In 1946, Naval Air Station, Pt. Mugu dredged the central portion of the lagoon. Access to the lagoon is severely restricted.

Since the 1960s cities within the watershed have expanded including communities of Simi Valley, Moorpark, Camarillo, Somis, and a portion of Thousand Oaks. This growth pattern has continued during the 1990's.

Point Mugu is home to the Naval Air Weapons Station (NAWS), Point Mugu. The installation comprises 4,490 acres on the coast of Southern California, approximately 2,500 acres are jurisdictional wetlands. The base employs more than 7,000 personnel and provides housing to 3,000 military family members. The mission of NAWS Point Mugu is to support the Naval Air Warfare Center Weapons Division (NAWCWPNS) whose primary mission is to perform developmental test and evaluation of naval weapons systems.

3.7.1 Land Use Setting

The project area is zoned for very low density residential (For example: 1 unit per 10 acres), recreation (public/commercial), agriculture, grazing, and open space. The agricultural lands are zoned "C-A" (Coastal Agricultural, 40 acre minimum lot size) and designated "Open Space" (10 acre minimum lot size) by the County's General Plan.

Agriculture on the South Coast extends from the farmlands east of Naval Air Station, Point Mugu near Calleguas Creek, to the northernmost foothills of the Santa Monica Mountains. From 1968 to 1988 approximately 13,120 acres of new agriculture acreage were developed. During the 1990's about 80,000 acres of agricultural land in Ventura County has been converted to urban uses. Ninety percent (90%) of new acreage is avocado and lemon orchards established on hillsides in the upper Calleguas Creek Watershed.

Broome Ranch, which is undeveloped, is on the south side of Potero Road across the street from the massive Dos Vientos development. Broome Ranch is currently maintained by the Conejo Open Space Conservation Agency (COSCA).

Based on projected long-range development plans, an additional 37,000 acres will be converted to urban uses over the next 20 years. In the majority of the future urban expansion is projected to occur through the conversion of what is described as open space / natural area adjacent to the incorporated cities.

3.7.2 Social Characteristics

- **Population and Housing**

The Calleguas Creek Bridge Widening Project is located in an unincorporated portion of Ventura County. About ¼ mile north of the project site is a small community (Rancho Guadaldasca) consisting of about seven (7) single family homes. The total populations and population growth projections in Ventura County are given in Table 5.

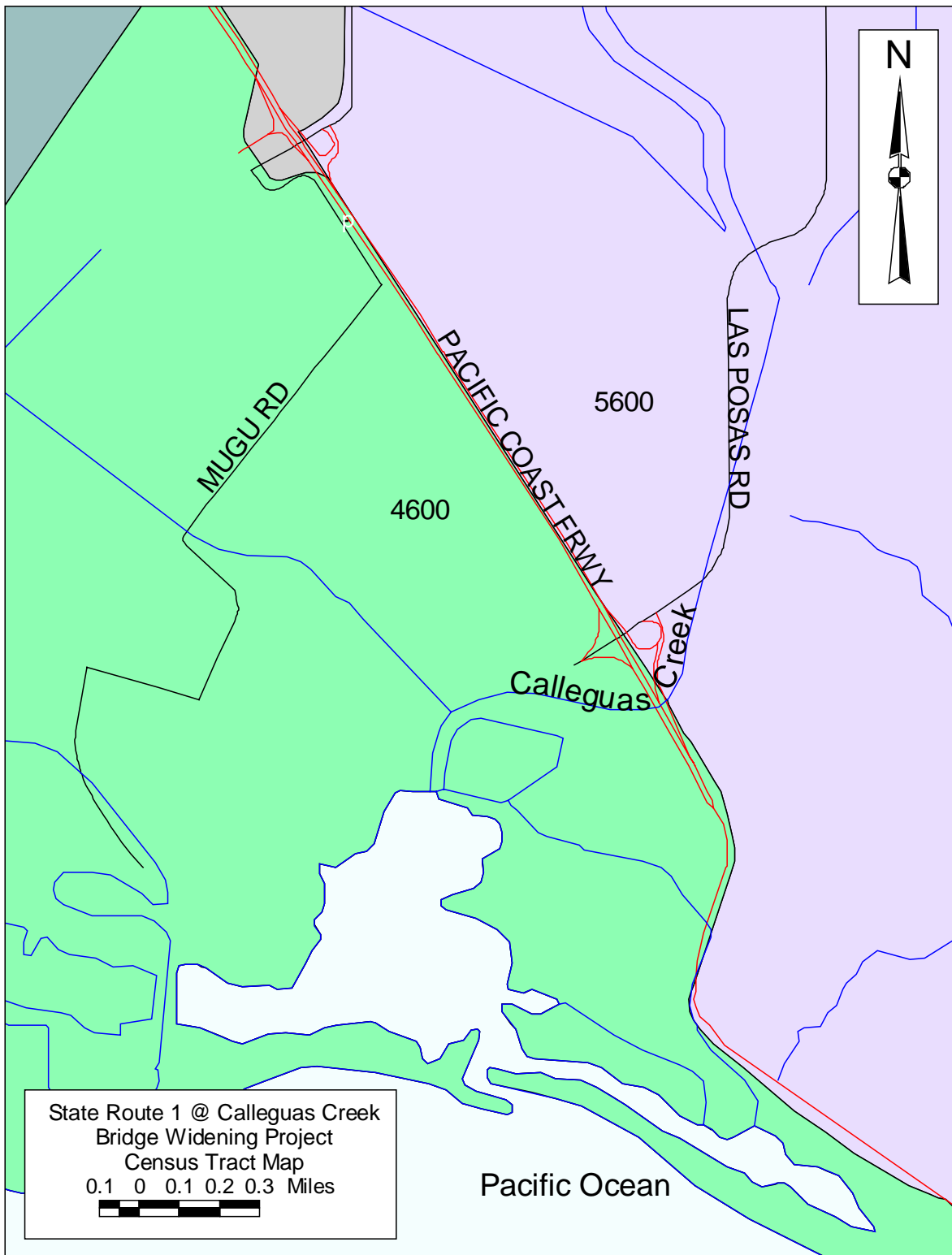
Table 5. Ventura County Population Trends, 1990-2010

CITY	1990	1997	2010	% Increase (1990-2010)
Oxnard	142,216	153,273	203,082	42.8%
Port Hueneme	20,319	21,772	25,000	23.0%
Unincorporated	86,873	90,692	134,541	54.9%
Census Tract 46.00	1,684	NA	NA	NA
Census Tract 56.00	6,379	NA	NA	NA
Ventura County	669,016	716,949	915,200	36.8%

Source: 1990 U.S. Census and Calif. Dept. of Finance

Figure 7 shows two census tracts, 46.00 on the eastside and 56.00 on the westside. In 1990, Census Tract 46.00 was home to 1,684 people and Tract 56.00 was home to 6,379 people.

Figure 7. 1990 Census Tracts



- ***Environmental Justice***

This project has been developed in accordance with the Civil Rights Act of 1964, as amended, and Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The Executive Order requires each federal agency (or its designee) to take the appropriate and necessary steps to identify and address 'disproportionately high and adverse' effects of federal projects on minority and low-income populations.

Title VI requires that no person, because of race, color, religion, national origin, sex, age, or handicap, be excluded from participation in, denied benefits of, or be subjected to discrimination by, any federal aid activity. Executive Order 12898 broadens this requirement to mandate that disproportionately high and adverse health or environmental impacts to minority and low-income populations be avoided or minimized to the extent possible.

Table 6 shows the breakdown of ethnic and racial groups in the project area. The two census tracts have less than one percent minority population. Although the county has 58% minority population Non-Hispanic whites represent the largest percentage segment of the population.

Table 6. Population by Ethnic Origin in 1990

Ethnic Population	Census Tract 46.00	Census Tract 56.00	Ventura County
White	1,251	5,451	441,410
Hispanic	145	867	176,952
Asian / Pacific Islander	141	394	32,665
African-American	208	54	14,559
American Indian	17	112	3,430
% Minority	0.11%	0.06%	58%
Population	1,684	6,379	669,016

Source: U.S. Census Bureau

- ***Economic Characteristics***

Agriculture is Ventura County's number one industry. The coastal plains of western Ventura County, once primarily agricultural, continue to retain their open space character. Ventura County ranks 10th in agricultural production among California counties, producing over \$900 million annually in food crops. Ventura County continues to be among the leaders in the production of citrus, cut flowers and nursery products as well as vegetables and field crops. Ventura County agriculture continues to thrive, averaging gross dollar sales of over \$900 million annually and employing between 17,000 and 25,000 people. Through its diverse commodities, agriculture continues to provide stability to the Ventura County economic base. Approximately 100,000 acres in the southern portion of the County are devoted to agricultural production.

The Naval Air Station, Point Mugu is the largest employer in the County with 8,424 employees. Point Mugu is the Navy's largest test and evaluation facility. Founded in 1942 during World War II to support construction requirements in the Pacific, the Naval Air Station, Point Mugu is one of two bases nationwide dedicated to the support of the Naval Construction Force (SCR) or Seabees. The Point Mugu main base is comprised of 4,500 acres and houses extensive test laboratories, support facilities and two runways capable of handling modern aircraft. The County of Ventura is the second largest employer with 7,100 public employees.

3.9 Historic & Cultural Resources

The Ventura County coast is archaeologically and culturally significant to a variety of groups. The Mugu Lagoon is named for Muwu, a large Chumash village located where Calleguas Creek enters the Lagoon. Native Americans occupied the lagoon area for 7,000 years, and several villages have been uncovered there. A nationally registered archaeology site has been designated nearby.

The Calleguas Creek Bridges built in 1934 and 1957 were determined ineligible for National Register of Historic Places as a part of the 1987 Caltrans Historic Bridge Inventory. The bridge was reevaluated in 1997 with the same conclusion of ineligibility. A Negative Archaeological Survey Report and a Negative Historical Properties Survey Report were prepared.

3.10 Noise

3.10.1 Noise Abatement Criteria

This section contains a discussion of the long-term impacts associated with the project. The Traffic Noise Analysis Protocol (the Protocol) includes Caltrans Noise Policies, which fulfill the highway noise analysis and abatement requirements stemming from the following state and federal environmental statutes:

- California Environmental Quality Act (CEQA)
- National Environmental Policy Act (NEPA)
- Title 23, United States Code of Federal Regulations, Part 772 “Procedures for Abatement of Highway Traffic Noise and Construction Noise” (23 CFR 772)
- Section 216 et seq. of the California Streets and Highways Code.

Policies, procedures and practices are provided in this Protocol for use by agencies that sponsor new construction or reconstruction transportation projects. The Protocol is designed to evaluate the potential traffic and construction generated noise impacts, and determines reasonable and feasible noise abatement for the project.

The Code of Federal Regulations (23 CFR Part 772) places residences & recreation areas in Activity Category B, which specifies a maximum exposure exterior level of 67 decibels (dBA). Attenuation to this federal standard and to lower, more desirable levels was considered for all the sensitive receptors within the project limits. The noise measurements and predictions are in accordance with criteria established by the Federal Highway Program Manual (FHPM7-73), codified in the August 1990 Code of Federal Regulations (23 CFR part 772), and in compliance with the 1998 Traffic Noise Analysis Protocol (TNAP). The projected average future noise levels without any improvements is expected to be 70.0 decibels (dBA). This exceeds the Noise Abatement Criteria (NAC) of 67 dBA. The Noise Study is based on the unit of measure in decibel (dBA) on an A-scale of a stand sound level meter. The criterion for noise barrier heights is stated in Chapter 1100 of the Caltrans Design Manual, dated July 1, 1995. Table 7 summarizes typical community noise exposure and acceptability for various land uses.

Table 7. Activity Categories and Noise Abatement Criteria (NAC)

Activity Category	NAC, Hourly A-Weighted Noise Level, DBA	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 Exterior	Identification of existing land use activities, developed lands, and undeveloped lands for which development is <i>planned, designed and programmed</i> , which may be affected by noise from the highway
D	--	Undeveloped lands.
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Traffic Noise Analysis Protocol, October 1998

CEQA requires a determination be made whether the proposed project will substantially increase the ambient (existing) noise levels for adjacent areas. If so, it is considered a “significant environmental effect”. FHWA regulations indicate traffic noise impacts occur when the predicted noise levels approach or exceed the NAC, or when the predicted noise levels substantially exceed the existing noise levels. When noise impacts occur, abatement must be considered and mitigation must be provided when reasonable and feasible.

3.11.2 Existing Noise Environment

Land Use and Noise Sensitive Areas

Land uses surrounding the project site are NAS Point Mugu to the South, agricultural land to the North and a small residential community approximately ¼ mile East of the project site. The nesting area of the Belding’s Savannah Sparrow is expected to be southwest of the bridge.

Existing traffic noise was measured at the locations shown in Figure 6. Existing noise levels were measured and recorded at the most representative sites within the project limits. The noise measurements and predictions are in compliance with the Code of Federal Regulations (23 CFR Part 772). All noise levels are expressed as Leq, which is a given period of time that contains the same acoustic energy as the time varying sound levels during the same period. The noise measurements represent typical traffic generated noise monitored over a 10-minute period.

Future noise environmental, impacts and abatement considerations

The predicted future noise levels are not expected to exceed the existing noise levels once the project construction is completed since this project will not increase highway capacity or number of through lanes.

School Classroom

There are no schools within the project area

Commercial areas, libraries and parks

There are no Commercial areas, libraries and parks within the project area

Undeveloped Lands

Undeveloped lands were identified within the project limit. Undeveloped lands fall under Activity Category D per Table 8. These locations currently do not have any frequent human activity. However, the nesting area for the Belding's Savannah Sparrow is within these lands. In order to determine the impacts from this project on the sparrow population, construction noise has been predicted in the nesting area and is presented as noise impact contour lines, which are shown on Figure 7.

Residential Areas

The results of the traffic noise readings for the residential locations on Rancho Guadaluca Road located South of the Calleguas Creek bridge on the East side of Route 1 are shown on Figure 8 and Table 8.

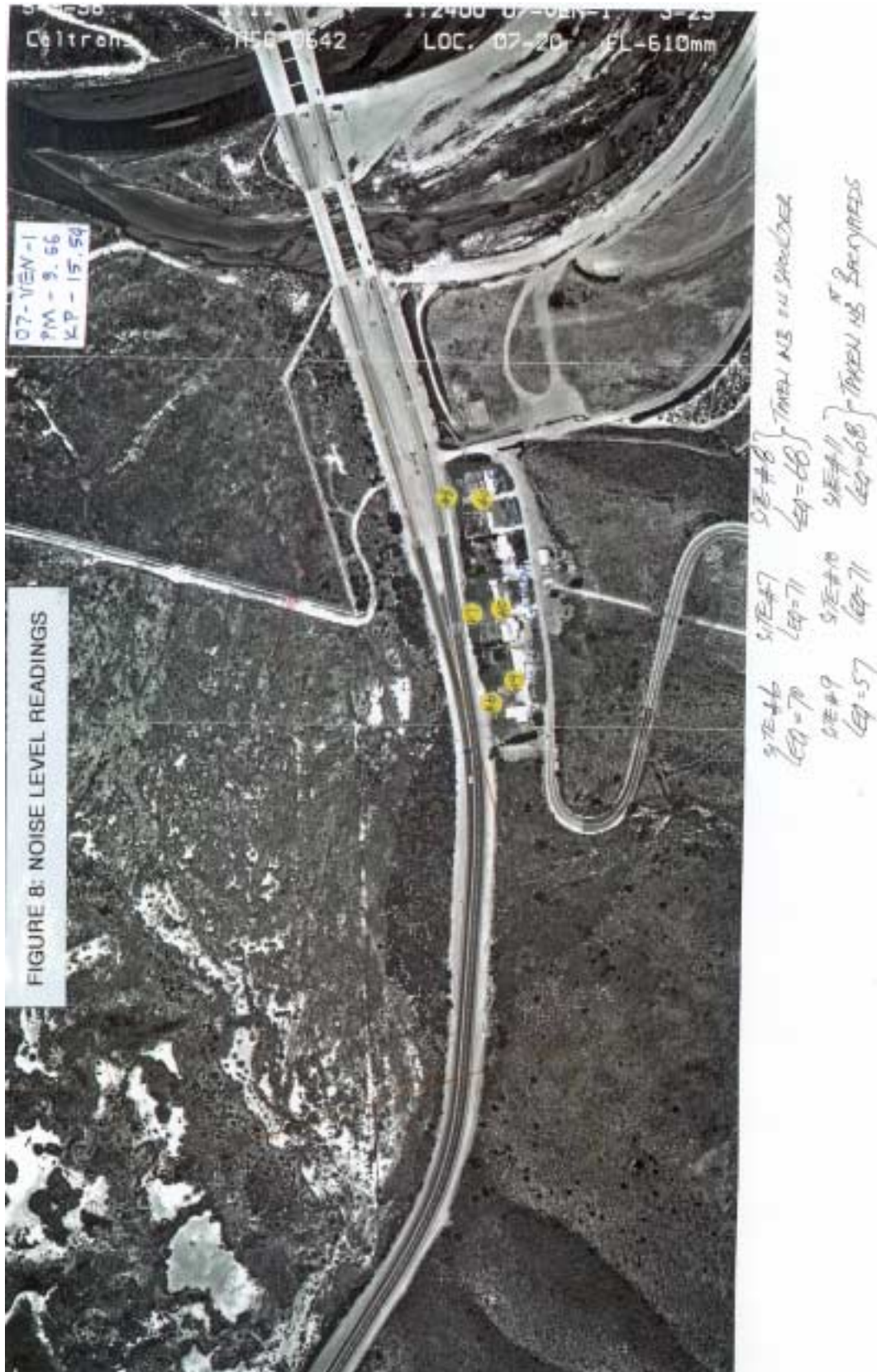
Table 8. Existing Noise levels

Site #	Dir	Limits	Reference Elevation	Existing Noise Level Decibels (dBA)
6	N/B	Rancho Guadaluca Rd	ETW	70
7	N/B	Rancho Guadaluca Rd	ETW	71
8	N/B	Rancho Guadaluca Rd	ETW	68
9	N/B	Rancho Guadaluca Rd	Backyard	57
10	N/B	Rancho Guadaluca Rd	Backyard	71
11	N/B	Rancho Guadaluca Rd	Backyard	68

ETW = Edge of Travel way

Noise levels were measured and recorded during a 10 minute period at the most representative site along the northbound side of the freeway, during the morning and afternoon hours (between 9:00 am and 5:00 pm) These existing noise levels or measurements range from 68 dBA (Leq) to 71 dBA (Leq). See Table 8.

Figure 8. Noise Level Readings



Construction Noise

Construction of this project will require the use of heavy equipment with high noise level characteristics, particularly pile drivers, with those of the impact type being the loudest. Typically, construction equipment ranges from concrete mixers and generators producing noise levels in the 80-decibel range, at a distance of 50 feet from the source, to jackhammers at over 90 decibels and pile drivers whose peaks extend over 95 decibels. Appendix C has charts related to construction noise levels.

Figure 9 shows noise contour lines for sound energy emitted by a single impact pile driver. It has been assumed that the impact pile driver to be used will generate a noise level of 97 dBA at distance of 15.24 m (50ft) from the source. To calculate the noise levels in the area of concern, the geometric spreading of acoustic energy from a point and line source model was used (N-2141, Technical Noise Supplement). For a point source, such as static construction equipment, the model states that sound radiates uniformly outward in a spherical pattern, dissipating the energy of sound over an increasing area and attenuating at a rate of 6 dBA for each doubling of the distance. For a line source, such as that created by moving vehicles, the drop-off is 3 dBA per doubling of distance. The spreading pattern; hence that 3 dBA drop-off rate. Additionally, there is a 1.5-dBA decrease due to ground absorption as the sound energy waves get reflected and refracted by vegetation and uneven terrain.

Construction Noise effects on Least Bell's Vireo

Studies conducted by Caltrans District 11 involving Least Bell's Vireo Birds were analyzed to determine noise levels emitted by three D-9's and one backhoe at a distance of 24.4-30.8 meters (80-101ft). The equipment was operated in a small confined area and the noise was continuous and fairly constant. The noise analysis yielded noise levels for this equipment to be about 77 dBA at 33.5m which is lower than noise levels produced by a heavy impact pile driver.

4.0 Environmental Evaluation

Technical studies were conducted to provide background data and to assist in evaluating the environmental consequences of the proposed project. The following studies are incorporated by reference into the document.

- Air Quality Conformity, June 21, 2000
- Cultural Resources Assessment (Archaeology), June 30, 2000
- Cultural Resources Assessment (Architectural History), June 30, 2000
- Hydraulic/Floodplain Analysis, August 1, 2000
- Noise Study Report, September 19, 2000
- Visual Impact Analysis, June 29, 2000
- Geotechnical Report, July 3, 2000
- Traffic Forecast Analysis, June 20, 2000
- Traffic Investigations, June 1, 2000
- Natural Sciences Study Report, October 25, 2000
- Hazardous Waste Evaluation, December 15, 2000
- Project Scope Summary Report, December 24, 1993
- County of Ventura General Plan Area Plan for the Coastal Zone 1996

The Initial Study /Environmental Assessment (IS/EA) and technical reports are available for review at the Caltrans Office of Environmental Planning, 120 South Spring Street, Los Angeles, CA 90012 and at Caltrans web site http://www.dot.ca.gov/dist07/pubs/enviro_docs.htm.

Also, the Initial Study /Environmental Assessment (IS/EA) is available at the following local libraries:

Oak Park Library
899 North Kanan Road
Oak Park, CA 91377

Albert H. Soliz Library
2820 Jourdan Street
Oxnard, CA 93030

4.1 Environmental Factors Potentially Affected

This checklist was used to identify physical, biological, social and economic factors which might be impacted by the proposed project. In many cases the background studies performed in connection with this project clearly indicate the project would not affect a particular item. In so doing, the checklist achieves the important statutory goal of integrating the requirements of CEQA with the environmental requirements of other laws.

Title 14. California Code of Regulations Section 15064 provides the basic guidance to lead agencies in determining the significance of a project's effects or requiring mitigation to reduce the effect to less than significant in order to prepare a negative declaration. The checklist provides optional tools to assist Caltrans in determining the significance of particular effects.

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Aesthetics | <input checked="" type="checkbox"/> Agricultural Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Geology / Soils |
| <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology / Water Quality | <input checked="" type="checkbox"/> Land Use / Planning |
| <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise | <input checked="" type="checkbox"/> Population / Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation / Traffic |
|
 | | |
| <input checked="" type="checkbox"/> Utilities / Service Systems (Beneficial; see Aesthetics) | <input checked="" type="checkbox"/> Mandatory Findings of Significance | |

4.1.1 AESTHETICS

Would the Project:

Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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a) Have a substantial adverse effect on a scenic vista? ☐ ☐ ☐ ☒

The proposed project would result in the widening of an existing bridge, and other associated improvements. The affected area is a relatively flat rural area. The visual features along the alignment vary widely in terms of the types and densities of surrounding land uses. The predominate land use west and east of the alignment is residential, including single family residences, parks in the naval base. Farther north, open space land uses are common. The corridor follows gently rolling terrain in the east west direction. Scenic views of the Santa Monica and Santa Susana Mountains to the south and north are prominent from each of the corridor cities. These mountains dominate the visual character of the corridor area and represent the primary scenic resource.

The project area contains single family residential homes ¼ mile to the North, military and agricultural land uses on either side of the project area. There are no designated scenic vistas located in the immediate project area.

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

There are no scenic resources in the proposed project area or in the immediate vicinity. The area is developed with military and agriculture land uses. State Route 1 is eligible as a scenic highway, but not designated. Therefore, no damage to scenic resources would occur. Any vegetation that is removed will be replaced.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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The visual quality analysis of this proposed project site was performed according to criteria set forth in The Visual Impact Assessment for Highway Projects (1979). The visual quality was analyzed for each viewpoint in terms of vividness, intactness and unity. Viewpoints are shown using photo-simulations see Figures 10-13.

Roadway travelers will see a minimum of change from the existing bridges. Views of the bridges are limited to those views from the roadway, either approaching the bridges or while on the bridge itself. There are no practical vantage points to view the bridges anywhere else.

The preservation of existing native trees, shrubs and groundcovers will be beneficial in maintaining the visual continuity. Visual impacts will be limited to the views of the creek from the bridge and immediately approaching the bridges.



Figure 10. East panorama view of Calleguas Creek



Figure 11. West panorama view of Calleguas Creek



Figure 12. Solid barrier at Revolon Channel



Figure 13. Open Barrier at Calleguas Creek

The solid barrier at Revolon Channel was constructed in 1985 and is newer than the open barrier at Calleguas Creek. Figure 12 shows the solid barrier was vandalized. The open barrier (Figure 13) does not offer as desirable a surface for graffiti and has not been vandalized. The proposed new safety barrier will most likely appear similar to the representation in Figure 12.

An alternative to the solid barrier is one very similar to that on the existing southbound bridge which provides accommodations for drainage through the relatively small openings in the base of the barrier. This opening is smaller than those on the northbound bridge, the proportions are better suited for a barrier and the angled peak of the southbound barrier is a nice detail. This barrier opening will provide improved drainage capacity during a flood event. The open barrier will also offer a view opportunity of the creek from the bridge itself.

During previous construction on the bridges and banks at Calleguas Creek the riverbanks were covered in rock and rubble which was mortared in place. Planting native estuarine species in the rock slope protection (RSP) simultaneously with the construction of the bank will improve the stability of the slope protection, soften the visual impact of the constructed bank, and create habitat for fish and fowl. It is important to note the material needs to be prepared and planted at the time the rock is placed.

The proposed bridge widening and barrier replacement will not significantly impact the visual quality of Calleguas Creek either from within or outside the project limits. There are several measures to minimize harm identified in the Visual Impact Analysis that will mitigate potential visual impacts.

Measures to Minimize Harm

- 1) Open bridge barriers are preferred over solid bridge barriers for three reasons: improved drainage during periods of flooding, improved viewing opportunities for motorists and the open barrier serving as a "passive" vandal deterrent.
- 2) Revegetate the banks of the creek during and at the conclusion of the construction period utilizing native estuarine species. Eliminate exotic species. Disturbed areas would be revegetated with the same native species after construction to protect and enhance the visual compatibility.
- 3) Suggested plant material for the vegetated riprap includes Fremont Cottonwood (*Populus fremontii*), Salix sp. and Mule Fat (*Baccharis viminea*). Other species associated with this native estuarine plant community are Coyote Bush (*Baccharis pilularis*), Saltbush (*Atriplex lentiformis*),

Arroyo Willow (*Salix lasiolepis*), and Jimson Weed (*Datura meteloides*). This material should be planted during revegetation.

- 4) Where Calleguas Creek stream banks are disturbed in the course of widening, the existing rock & mortar slope protection should be removed and replaced with vegetated riprap or a similar biotechnical erosion control method.
- 5) Grading on the riverbanks should be kept to a minimum and contoured to blend with the existing topography.
- 6) Signage should be consolidated whenever possible. Consolidating and organizing signage will result in a stronger message with less visual intrusion.

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project would result in the widening of an existing bridge through an agricultural area. Given the fact that the project site is an agricultural area and residents live on the naval base ¼ mile away from project site no impacts are expected.

4.1.2 AGRICULTURAL RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The project proposes to widen within state right of way and would not result in the conversion of prime farmland to non-agricultural use. No impacts to agriculture land would occur as a result of project implementation.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project site is not located on parcels of land under a Williamson Act contract. Therefore, conflicts with existing zoning or the Williamson Act contract would not occur.

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project site is located near existing agricultural land. The proposed project would not involve changes in the existing environment, which due to their location or nature would result in the

conversion of farmland to non-agricultural use. Therefore, no impacts would occur to farmlands or agricultural uses.

4.1.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

There will be little or no difference in air quality from the proposed widening project. The U.S. EPA has determined that projects of this type are ordinarily exempt from all emissions analyses according to Table 2 – Exempt Projects of 40 CFR 93.126 “widening narrow pavements or reconstructing bridges (no additional travel lanes)”.

The proposed project would be constructed in the Ventura County Air Basin, currently designated as a non-attainment area for ozone (via transport) and fine particulate matter (PM₁₀). The Ventura County Air Pollution Control District (VCAPCD) has adopted an Air Quality Management Plan (AQMP), which sets forth strategies for attaining all national air quality standards by certain deadline dates and for meeting state standards at the earliest feasible date.

The proposed project is included in the Circulation Element of the County’s General Plan and Regional Transportation Plan would not conflict with the existing AQMP. Since this project is identified in the federally approved (July 31, 1998) 1998/99-04/05 RTIP, notwithstanding any changes in design concept and/or scope from that which is described in the RTP and RTIP, the project conforms to the requirements of the Federal Clean Air Act Amendments of 1990.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Air quality impacts due to implementation of the proposed project could occur during construction and operation on both a regional and local scale. Construction impacts include airborne dust from grading, demolition, and dirt hauling, and gaseous emissions from heavy equipment, delivery and dirt-hauling trucks, employee vehicles, paints and coatings. Construction emissions, in particular PM₁₀ levels, could be significant. Localized operational impacts, i.e., carbon monoxide levels that exceed state or federal standards, could occur due to the introduction of additional motor vehicular traffic in close proximity to sensitive residential receptors.

Air impacts from construction activities are considered temporary. Federal conformity and Ventura County Air Pollution Control District (APCD) requirements indicate that hot spot analyses are not required for temporary increases in emissions, due to construction-related activities. In accordance with Ventura County’s Guidance for the Preparation of Air Quality Impact Analyses, this project is exempt from emission analysis based on Table 2 pursuant to 40 CFR § 93.126. Project construction will be conducted in accordance to all federal, state and local regulations that govern construction activities and emissions from its vehicles. This project will not have significant impacts on air quality.

Measures to Minimize Harm

- 1) Project construction would be conducted in accordance with all federal, state and local regulations that govern construction activities and emissions from construction vehicles.

- 2) Pregrading/excavation activities will include watering the area to be graded or excavated before commencement of grading or excavation activities.
- 3) All trucks will be required to cover their loads as required by California Vehicle Code § 23114.
- 4) All grading and excavation material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, will be treated to prevent fugitive dust. Treatment will include, but not necessarily be limited to, periodic watering, application of environmentally-safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary and reclaimed water used whenever possible.
- 5) Minimize equipment idling time.
- 6) Maintain equipment engines in good condition and in proper tune as per manufacturers' specifications.
- 7) Lengthen the construction period during smog season (May through October), to minimize the number of vehicles and equipment operating at the same time.

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The project would not generate increased traffic. Therefore, cumulative impacts to air quality from construction and operation of the proposed project would not result in a net increase of O₃ and PM₁₀.

d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Temporary exposure of animal habitat to pollutants could occur. This impact is not expected to be substantial.

e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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During construction, exhaust emissions from diesel-powered equipment and vehicles and construction activities involving use of materials such as asphalt and coatings could create objectionable odors. However, such activities would be short-term and are not expected to affect a substantial number of people at any given time. Operation of the proposed project is not expected to generate objectionable odors affecting a substantial number of people.

4.1.4. BIOLOGICAL RESOURCES

Would the project:

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Based on the findings in this report, that this project may effect state or federally listed threatened or endangered species, a Biological Assessment will be prepared and submitted to the following agencies:

- California Department of Fish and Game
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service

The following permits and agreements will be required for this project:

- | | |
|---|---|
| • 1601 Streambed Alteration Agreement | California Department of Fish and Game |
| • 404 Permit (NWP # 25 and 33) or Individual Permit | U.S. Army Corps of Engineers |
| • 401 Certification/Waiver | California Regional Water Quality Control Board |
| • Coastal Development Permit | California Coastal Commission |
| • Coastal Development Permit Agency | County of Ventura, Resource Management |
| • Right of Entry Permit | NAS Pt. Mugu |
| • Encroachment Permit | Ventura County Flood Control District |

Wildlife

California Least Tern - The project area is located over three miles from the tern nesting colony; hence, the project will not affect nesting of this species. However, there is the potential to affect individual terns during foraging. As mentioned in Section 3, individuals forage in Calleguas Creek near the project site during July and August. There will be a temporary reduction in foraging habitat near the bridge due to construction activity. This loss will be minor, however, when compared to the total amount of foraging habitat that is available.

Another potential impact could result from the disturbance of sediment due to work in the creek. This has the potential to affect the terns by 1) increasing turbidity so that foraging success is reduced, and 2) re-suspending contaminants (primarily organochlorines) that can be ingested by the terns either directly or indirectly, by eating contaminated prey (bio-accumulation). These impacts will be reduced below the level of significance by following the steps outlined in Table 9

Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) (FSC/SE) - This project has the potential to impact this species due to excessive noise and vibration from the use of heavy equipment; in particular, the pile driving equipment is of special concern. The noise from an impact pile driver

can be over 100 decibels (dBA) at the source. As with any sudden loud noise, there is the potential for birds (and other animals) to be startled, causing them to flee from the nest leaving eggs or young unprotected. Excessive noise can also interfere with a bird's ability to communicate with other members of its species. Either of these impacts could result in a temporary reduction in nesting success.

Based on a noise evaluation prepared for this project (Caltrans, 2000), the noise from an impact pile driver would be expected to carry approximately 1250 feet away before it attenuates down to a level of 60 dBA. 60 dBA has become the defacto threshold noise level that the USFWS has used in assessing impacts to such species as the least Bell's vireo, California gnatcatcher and the cactus wren (Barrett, 1995). Although no information is available specifically for the BSS, it is assumed that 60 dBA is an appropriate threshold level for this species as well. It is not known at this time how far the vibration would carry before it drops to an acceptable level.

Because there are variables whose values are unknown at this time (e.g., the exact noise level of the equipment and the location of nesting birds at the time of construction), it is difficult to determine the exact level of impact to the BSS. However, there are several factors that lead to the conclusion that the overall impact to BSS will be insignificant. These are:

1. While a survey at Mugu Lagoon in 1994 counted 958 territorial males, only a few of these were in areas close to Calleguas Creek. It is even possible that no birds will nest within the impact zone where noise levels exceed 60 dBA.
2. Although birds may be startled and fly away in response to a loud noise, even sensitive species will soon resume their normal activities; this typically occurs within a few moments, but always occurs within several minutes (NAWCWPNS, 2000). Since the length of time that a startled bird stays away from the nest would determine, in part, the degree of susceptibility of the eggs and young to predation and other causes of mortality, it would be one indication that the level of impact would be fairly low.
3. Any BSS present within the impact zone will likely be subject to behavioral habituation. This is "the gradual waning of behavioral responsiveness as [an] animal learns that a repeated or ongoing stimulus lacks adverse consequences for the animal" (NAWCWPNS, 2000). This may be occurring in birds at NAS Pt. Mugu as they do not appear to be disturbed by routine noise events such as the takeoff and landing of aircraft or the launching of targets and missiles. So it is likely that, as the project progresses, the threshold noise level for BSS will rise and the level of impact, if any, will fall.
4. Coordination with the CDFG and USFWS is ongoing in an attempt to develop appropriate methods to minimize impacts to this (and other) species.

Light-footed clapper rail (*Rallus longirostris levipes*) (FE/SE/FPS) - Because this species does not forage in Calleguas Creek, it will not be directly impacted by this project. Indirect impacts due to the disturbance of contaminated sediments will be reduced. Refer to Section 4.1.4c44.

Western snowy plover (*Charadrius alexandinus nivosus*) (FT/MNBMC/CSC) - At Mugu Lagoon, these birds nest and forage in a narrow strip adjacent to the ocean; the nearest location is approximately one mile from the project site.

Since the sediments within Calleguas Creek are known to be contaminated, the potential exists for this project to adversely affect critical habitat. However, this potential can be minimized, by following the

steps outlined in Section 4.1.4c, to the point where any impact to this species or its Critical Habitat would be less than significant.

Mountain Plover (*Charadrius montanus*) (FPT/MNBMC/CSC) - In the general vicinity of this project, they are known to utilize the short grass and sod fields of the Oxnard Plains. These areas are upstream and far enough away from the project so that there should not be any impact upon this species.

Southwestern pond turtle (*Clemmys marmorata pallida*) (FSC/CSC/FPS) - The area upstream of the Hwy. 1 bridge is considered potential habitat that has historically supported pond turtles. However, changes in land use practices have removed all suitable habitat from the area. On the NAS Pt. Mugu, they can be found along the western boundary of the base. Although not likely, it is possible that the turtles could move into the vicinity of the Calleguas Creek Bridge. To prevent direct impacts should this occur, an exclusionary device will be installed downstream of the work area. Indirect effects will be reduced below the level of significance, refer to Section 4.1.4c.

CA brown pelican (*Pelecanus occidentalis californicus*) (FE/SE/MNBMC/FPS) - The birds are not known to move upstream of the bridge. As with the least tern, there are potential impacts to this species if contaminated sediments are disturbed. However, it is believed that the steps outlined in Table 9 will sufficiently reduce this potential below the level of significance. An additional impact will be a temporary reduction in foraging habitat near the bridge due to construction activity. This loss will be minor, however, when compared to the total amount of foraging habitat that is available.

American peregrine falcon (*Falco peregrinus anatum*) (SE) - Measures to Minimize Impacts outlined in Section 4.1.4c will be sufficient to reduce the potential for disturbing the contaminants in the creek, which could potentially find their way into the peregrines. For these reasons, this species is not expected to be impacted by this project.

Harbor seal (*Phoca vitulina richardsi*) - The only potential affect on it would be from the resuspension of contaminated sediments. This, however, will be kept to an insignificant level by following the measures described in Section 4.1.4c.

Cliff Swallow (*Hirundo pyrrhonota*) - Cliff swallows are known to nest on the Calleguas Creek bridges. Department of Fish and Game personnel (Natasha Lohmus, pers. com.) have indicated that it is acceptable to remove old nests and new nests under construction before they are occupied. Nests are assumed to be occupied once the nest is 50% completed (i.e., the cup is finished). In order to prevent impacts to this species and avoid delays in the project, appropriate steps will be taken to ensure that there are no occupied nests on the bridges at the time of construction. Such steps might include the installation of a barrier to prevent nest construction or the physical removal of nests before they are occupied.

Additional Species:

The following special status species are listed in the California Wetlands Inventory for Mugu Lagoon as having been observed in the vicinity of the project area at some point during the last several years. They will not be affected by this project for the reasons stated below.

Northern harrier (*Circus cyaneus*) (CSC) Observed at Mugu by UCLA researchers during the fall of '94, '95 and '96 but never during the spring, the northern harrier's habitat includes saltwater and freshwater marshes, and agricultural lands, among other areas. The items listed in Section 4.1.4.c will be sufficient to avoid impacts.

The measures to minimize sediment re-suspension will be sufficient to avoid impacts to the following species.

American white pelican (*Pelecanus erythrorhynchos*) (CSC)

Double-crested cormorant (*Phalacrocorax auritus*) (CSC)

Western least bittern (*Ixobrychus exilis hesperis*) (FSC/CSC)

White-faced ibis (*Plegadis chihi*) (FSC/CSC/MNBMC)

Fulvous whistling duck (*Dendrocygna bicolor*) (FSC/CSC)

Harlequin duck (*Histrionicus histrionicus*) (FSC/CSC) Barrow's goldeneye (*Bucephala islandica*) (CSC)

Long-billed curlew (*Numenius americanus*) (CSC/MNBMC)

Laughing gull (*Larus atricilla*) (CSC)

California gull (*Larus californicus*) (CSC)

Elegant tern (*Sterna elegans*) (FSC/CSC/MNBMC)

Black tern (*Chlidonias niger*) (FSC/CSC/MNBMC).

Black skimmer (*Rynchops niger*) (CSC)

Tables 9 & 10 list wildlife that is expected or observed in the project area, potential impacts, mitigation measures and results with mitigation.

Table 9. Endangered Species List

SPECIES/HABITAT/ RESOURCES	STATUS	POTENTIAL IMPACTS	MITIGATION MEASURES	RESULTS W/ MITIGATION
CA least tern (<i>Sterna antillarum browni</i>)	FE/ SE MNBMC	1) Resuspension of contaminated sediments 2) Temporary reduction of foraging habitat	1) BMPs contained in WPCP 2) Not needed	Impacts will be less than significant
Belding's savannah sparrow (<i>Passerculus sandwichensis beldingi</i>)	FSC/SE	1) Noise/vibration could affect nesting success 2) Disturbance from night lighting	1) Use screw pile driver/shield generator 2) Limit lighting to immediate work area	Impacts will be less than significant
Southern Steelhead trout (<i>Oncorhynchus mykiss</i>)	FE/CSC	1) None	1) Not needed	No impacts
Light-footed clapper rail (<i>Rallus longirostris levipes</i>)	FE/SE/ FPS	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	Impacts will be less than significant
Western snowy plover (<i>Charadrius alexandinus nivosus</i>)	FT/ CSC /MNBMC	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	Impacts will be less than significant
Southwestern pond turtle (<i>Clemmys marmorata pallida</i>)	FSC/CSC/ FPS	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	Impacts will be less than significant
CA brown pelican (<i>Pelecanus occidentalis californicus</i>)	FE/SE/ MNBMC/ FPS	1) Resuspension of contaminated sediments 2) Temporary reduction of foraging habitat	1) BMPs contained in WPCP 2) Not needed	Impacts will be less than significant

Tidewater goby (<i>Eucyclogobius newberryi</i>)	FE	1) None	1) Not needed	No impacts
Salt-marsh bird's beak (<i>Cordylanthus maritimus maritimus</i>)	FE/SE	1) None	1) Not needed	No impacts
American peregrine falcon (<i>Falco peregrinus anatum</i>)	SE	1) Resuspension of contaminated sediments 2) Temporary reduction of foraging habitat	1) BMPs contained in WPCP 2) Not needed	Impacts will be less than significant
Arroyo chub (<i>Gila orcutti</i>)	FSC/CSC	1) None	1) Not needed	No impacts
Harbor seal <i>Phoca vitulina richardsi</i>	None	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	Impacts will be less than significant

Key to Status Abbreviations: FE – Federally listed as endangered, FT – Federal Threatened, FSC – Federal Special Concern species, CSC – Species of Special Concern (California Department of Fish and Game), SE – California Endangered, SCE – State Candidate Endangered, MNBMC – US Fish & Wildlife Service federal migratory non-game bird of management concern, FPS – California Department of Fish & Game fully protected species, FPE – Federal proposed endangered, MSFCMA- Magnuson-Stevens Fishery Conservation and Management Act

Table 10. Wildlife expected or observed in the project area

Species/Habitat	Status	Potential Impacts	Mitigation Measures	Impacts W/ Mitigation
Cliff swallow (<i>Hirundo pyrrhonota</i>)	MNBMC	Disturbance of nesting behavior	Prevent nesting activity on bridges prior to construction	Less than significant
Two-striped garter snake (<i>Thamnophis hammondi</i>)	CSC/FPS	1) None	1) Not needed	No impacts
Ashy storm petrel (<i>Oceanodroma homochroa</i>)	CSC/ MNBMC	1) None	1)Not needed	No impacts
Black storm petrel (<i>Oceanodroma melania</i>)	CSC	1) None	1)Not needed	No impacts
American white pelican (<i>Pelecanus erythrorhynchos</i>)	CSC	1) Resuspension of contaminated sediments	1)BMPs contained in WPCP	No impacts
Double-crested cormorant (<i>Phalacrocorax auritus</i>)	CSC	1) Resuspension of contaminated sediments	1)BMPs contained in WPCP	No impacts
Western least bittern (<i>Ixobrychus exilis hesperis</i>)	FSC/CSC	1) Resuspension of contaminated sediments	1)BMPs contained in WPCP	No impacts
White-faced ibis (<i>Plegadis chihi</i>)	FSC/CSC/ MNBMC	1) Resuspension of contaminated sediments	1)BMPs contained in WPCP	No impacts
Fulvous whistling duck (<i>Dendrocygna bicolor</i>)	FSC/CSC	1) Resuspension of contaminated sediments	1)BMPs contained in WPCP	No impacts
Harlequin duck (<i>Histrionicus histrionicus</i>)	FSC/CSC	1) Resuspension of contaminated sediments	1)BMPs contained in WPCP	No impacts
Barrow's goldeneye (<i>Bucephala islandica</i>)	CSC	1) Resuspension of contaminated sediments	1)BMPs contained in WPCP	No impacts
Osprey (<i>Pandion haliaetus</i>)	CSC	1) None	1)Not needed	No impacts
Northern harrier (<i>Circus cyaneus</i>)	CSC	1) Resuspension of contaminated sediments	1)BMPs contained in WPCP	No impacts
Swainson's hawk (<i>Buteo swainsoni</i>)	ST	1) None	1)Not needed	No impacts

Species/Habitat	Status	Potential Impacts	Mitigation Measures	Impacts W/ Mitigation
Greater sandhill crane (<i>Grus canadensis tabida</i>)	ST/FPS	1) None	1) Not needed	No impacts
Long-billed curlew (<i>Numenius americanus</i>)	CSC/ MNBMC	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	No impacts
Laughing gull (<i>Larus atricilla</i>)	CSC	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	No impacts
California gull (<i>Larus californicus</i>)	CSC	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	No impacts
California gull (<i>Larus californicus</i>)	FSC/CSC/ MNBMC	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	No impacts
Black tern (<i>Chlidonias niger</i>)	FSC/CSC/ MNBMC	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	No impacts
Black skimmer (<i>Rynchops niger</i>)	CSC	1) Resuspension of contaminated sediments	1) BMPs contained in WPCP	No impacts
Northern Xantus' murrelet (<i>Synthliboramphus hypoleucus</i> <i>hypoleucus</i>)	FSC/CSC/ MNBMC	1) None	1) Not needed	No impacts
Rhinoceros auklet (<i>Cerorhinca</i> <i>monocerata</i>)	CSC	1) None	Not needed	No impacts
Large-billed savannah sparrow (<i>Passerculus sandwichensis</i> <i>rostratus</i>)	FSC/CSC	1) None	Not needed	No impacts
Tricolored blackbird (<i>Agelaius</i> <i>tricolor</i>)	FSC/CSC/ MNBMC	1) None	Not needed	No impacts
Coastal salt marsh	Considered a sensitive resource by USFWS & CDFG	Resuspension of contaminated sediments	BMPs contained in WPCP	Less than significant
Wetlands	Protected under Section 404 of CWA & CDFG Code	1) Permanent and temporary impacts	Revegetation & Off-site mitigation	Impacts will be less than significant
Essential Fish Habitat	Protected under the MSFCMA	1) None	Not needed	No impacts
Wildlife corridor	None	Possible temporary blockage of corridor	Not needed	Impacts will be less than significant w/o mitigation

Would the project:

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impacts to Vegetation

There will be some minor temporary and permanent impacts to wetland and upland vegetation. The temporary impacts will result from use of equipment and materials in the work area. The permanent impact will be very small, a result of widening the bridges and approach slabs. These impacts will be kept to the minimum necessary and will be mitigated through a combination of on-site restoration and off-site mitigation.

Measures to Minimize Harm

1. Any vegetated area that is disturbed on the downstream side of the bridge will be re-vegetated using material propagated from local stock, defined as a two-mile radius around the Hwy. 1/Calleguas Creek Bridge. (The area upstream of the bridge will not be re-vegetated because it is subject to periodic mowing by the Ventura County Flood Control District). The parameters of the re-vegetation plan, including species, location, timing and plant establishment period will be sent to all resource agencies as part of the permit applications.
2. Monitoring will be done annually, during the fall.
3. Reports will be written on an annual basis, with a final five-year report submitted and including all annual reports as well as final recommendations.

Impacts Due to Construction Activity, Noise and Vibration

There will be some impacts to local wildlife from construction activity and noise, particularly from the pile driving activities. However, these impacts will be temporary and at a level that is not considered significant.

Construction activity in Calleguas Creek will likely discourage aquatic birds from foraging near the bridge. However, there are sufficient areas downstream of the bridge and in the lagoon in which birds can forage.

Land birds will also experience a temporary loss of foraging habitat due to construction activity and noise. However, there are ample upland areas on and adjacent to the NAS Pt. Mugu that these birds can utilize. It is possible that noise and vibration from pile driving could startle nesting birds, causing them to leave their nest, eggs and young exposed. This would only be considered significant if it resulted in lowered productivity of a sensitive species (e.g., BSS). As discussed previously in the section on BSS, there are several factors that lead us to believe that impacts will be minimal. Caltrans is coordinating with the resource agencies in assessing the level of impact and in developing ways to avoid or minimize those impacts.

Measures to Minimize Harm

1. If warranted, appropriate mitigation for impacts to the BSS will be developed in coordination with the CDFG.

Would the project:

Potentially
significant
Impact

Less Than
Significant
With
Mitigation

Less Than
Significant
Impact

No
Impact

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

☐ ☒ ☐ ☐

Impacts to Wetlands

The construction zone will include the entire width of the creek (from top of bank to top of bank) and will extend 139 feet downstream from the edge of the Left bridge and 122 feet upstream from the end of the pier noses on the Right bridge. Within this zone there will be both permanent and temporary impacts to state and federal wetlands. Permanent impacts will occur in those areas where new piers and pier noses will be installed. It will also occur in those areas below where the bridges will be widened; this is due to the shading caused by the new structures that could reduce or eliminate the growth of vegetation. Temporary impacts will occur in those areas affected by construction equipment and materials during the course of construction. A summary of the areas to be impacted is provided below:

Table 11. Wetland Impacts

	PERMANENT IMPACTS (ACRES)	TEMPORARY IMPACTS (ACRES)	TOTAL AREA IMPACTED (ACRES)
WATERS OF THE US	0.13	1.40	1.53
FEDERAL WETLAND	0.05	0.72	0.77
CDFG JURISDICTIONAL AREA	0.14	1.70	1.84
STATE WETLAND	0.05	0.88	0.93

Appropriate mitigation will be incorporated into the final plans to offset all wetland impacts (see below).

Measures to Minimize Harm

1. Permanent wetland impacts will be mitigated offsite. This might take the form of a transfer of fees to an outside entity for exotic plant removal, or to the California Coastal Conservancy for use in their efforts to restore the Calleguas Creek Watershed. The details of this mitigation will be provided at the time resource agency permits are obtained.
2. If the top layer of contaminated soil is removed from the work area, this can be considered as mitigation for disturbance to the creek bed.

Impacts to Water Quality

The sediments within Calleguas Creek are contaminated with organochlorines and other agricultural chemicals. Although construction activity will occur within the creek, measures will be implemented, following coordination with the resource agencies, that will minimize the amount of suspended sediments that will be allowed to flow downstream beyond the project limits. The contractor will be required to submit a Water Pollution Control Plan (WPCP) for review and approval by Caltrans as well as state and federal resource agencies. This plan will contain methodology that is developed by Caltrans and the resource agencies and which is contained in the Caltrans Special Provisions.

Once developed and implemented, the measures contained in the WPCP will be sufficient to minimize impacts to water quality and wildlife.

Measures to Minimize Harm

1. Caltrans, in coordination with the resource agencies, will develop an appropriate method for isolating and de-watering the work area that will minimize the potential impacts to water quality. Special emphasis will be placed on reducing the amount of re-suspended sediment that is allowed to flow downstream of the work area. The agreed-upon methodology will be incorporated into the Special Provisions for this project. One potential method that has been discussed involves the following:
 - a. Use water dams to isolate the work area (approximately 2/3 of the width of the channel at one time).
 - b. At low tide, a backhoe (or another suitable piece of equipment) will be used to remove the top layer of contaminated soil (depth to be determined later) where the dams will be placed.
 - c. Following installation of the dams, the work area will be de-watered by an appropriate method (still to be determined).
 - d. After de-watering is complete, the top layer of contaminated sediment (and the accumulated sediment in the outer bays on each side) will be removed. The channel will be backfilled with clean fill material to provide a contaminant-free work area.
 - e. Equipment and personnel will enter the channel as needed to perform the work.
 - f. When work is completed, the dams will be removed at low tide and installed using the above methods to allow for work on the remaining piers.
 - g. Dam removal might include partially filling the water dam enclosure with water prior to removal to reduce turbulence and the initial "slug" of sediment/contaminant flowing downstream.
 - h. A monitor will be present during the installation and removal of the water dams to ensure that proper precautions are taken and to respond to any problems that might arise.
2. A Water Pollution Control Plan will be developed by the contractor, and approved by Caltrans and the state and federal resource agencies. This Plan will incorporate the resource agency approved methodology as well as all other appropriate techniques for reducing impacts to water quality.
3. Exclusionary fencing will be installed in upland areas to denote the limits of the project area and to prevent the southwestern pond turtle or other species from entering the work area.
4. The generator for the pile driver will be located as far from BSS habitat as is feasible and will be shielded by an enclosure to minimize noise levels.
5. The contractor will be required to minimize noise from the pile driving operation to the greatest extent practicable.
6. If at any time during construction, sensitive biological resources are found on-site or directly adjacent, work in that area will be stopped until the Resident Engineer, District Biologist and resource agency personnel are called and all concerns are addressed.
7. All equipment operated in or near the creek will be checked daily for fluid leaks prior to beginning work each day.
8. Grubbing of vegetation will be kept to the minimum necessary to complete the work.
9. All vegetation to be grubbed will be cut to ground level and not uprooted. This will allow for stump sprouting in those species capable of doing so. It will also help stabilize the soil and reduce erosion.
10. An educational session for workers on sensitive biological resources that have the potential to be found in the work area will be conducted prior to initiating construction at the bridge.

11. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, metal shavings, or any other substances which could be hazardous to aquatic life shall be prevented from contaminating the soil and/or entering the waters of the State as a result of this project.
12. All other applicable Best Management Practices will be implemented.

Would the project:

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Calleguas Creek flows in a generally north-south direction. Its southern terminus, at Mugu Lagoon, is surrounded by a fairly large and relatively undeveloped coastal salt marsh. Upstream, the creek runs near the base of the Santa Monica Mountains; Long Grade Canyon Creek serves as a connection between the mountains and Calleguas Creek. Although wildlife have to cross Lewis Rd. to move between Calleguas and Long Grade Canyon creeks, the presence of roadkills serves as evidence that these creeks function as corridors for wildlife movement (Rincon, 2000).

Because the NAS Pt. Mugu is surrounded by a fence, Calleguas Creek provides one of only a few accessible paths for wildlife into and out of Mugu Lagoon. It provides ample cover and foraging opportunities between the lagoon and Long Grade Canyon Creek. The observation of distinct large cat tracks (either bobcat or mountain lion) as well as numerous unidentified small mammal tracks within the exposed sediments of Calleguas Creek in the vicinity of Hwy. 1 demonstrates that it is being used as a movement corridor by wildlife.

The finished product of this project (i.e., the widened bridges) will not have any effect on wildlife movement through the creek. However, construction activities may result in a temporary restriction in the movement of wildlife under the bridges. Animals will avoid crossing the work area while people are present and construction activity is underway. But, because most wildlife movement occurs at night and because it is anticipated that most construction will occur during the day, this is not expected to result in a conflict.

Of greater concern is the physical restriction of the area available for movement within the creek. During much of the construction period, approximately 1/2 to 2/3 of the width of the creek will be isolated and de-watered as a work area and will essentially be unavailable for use by wildlife. Water flowing around the work area will be restricted to a much narrower path, resulting in a rise in the water level. This could eliminate the exposed soil within the creek, even at low tide, and block all movement under the bridges. Even if this is the case, however, the impacts to wildlife movement are not expected to be significant.

The Revolon Slough is another tidal creek that crosses Hwy. 1 a short distance to the west of Calleguas Creek. It runs parallel to Calleguas for a short distance before merging with it a few hundred feet south of Hwy. 1. Since animals are known to be able to change corridor routes when necessary (CDPR, 1998), it is likely that any bottleneck within Calleguas Creek would simply result in them utilizing Revolon Slough to move out of Mugu Lagoon. Once passed the Hwy. 1 bridges,

animals could cross over the levee that separates the two waterways and move back into Calleguas Creek.

Would the project:

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

There are no local biological policies or ordinances that affect the proposed project area; consequently, conflicts would not occur. No impacts to local policies or ordinances protecting biological resources would occur as a result of project implementation.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.1.5 CULTURAL RESOURCES

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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A search of existing databases revealed that the proposed project area contains no structures that were constructed over 50 years ago. The Calleguas Creek Bridges built in 1957 and 1934 were determined ineligible for National Register of Historic Places as a part of the 1987 Caltrans Historic Bridge Inventory. The bridge was reevaluated in 1997 with the same ineligibility conclusion. Therefore, no impacts on historic resources are expected.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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An archaeological record search was conducted. However, given the limited amount of excavation that would be required to construct the highway improvements, the potential for significant impacts is considered to be low.

Measures to Minimize Harm

1. The contractor shall pay for a Native American Monitor (a representative of the traditional tribe of the area) during the excavation phase of construction. Additionally, a Caltrans archaeologist shall be invited to meet with these individuals prior to the start of construction to discuss the requirements necessary to ensure compliance with Caltrans policy.
2. If buried cultural materials are encountered during construction work in the area will halt until a Caltrans archaeologist can evaluate the nature and significance of the find.
3. If human remains are exposed during construction, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made the necessary findings as to origin and disposition, pursuant to Public Resources Code 5097.98. The District 7 Environmental Planning Branch shall immediately be notified.

Would the project:

Potentially
significant
Impact

Less Than
Significant
With
Mitigation

Less Than
Significant
Impact

No
Impact

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

☐ ☐ ☐ ☒

A record search will be conducted to determine if there are previously discovered paleontological resources in the study area. Given that the project will have limited excavation required to construct the proposed improvements, significant impacts to paleontological resources are not anticipated.

There are no unique geological features that would be destroyed either directly or indirectly by the proposed project.

d) Disturb any human remains, including those interred outside of formal cemeteries?

☐ ☐ ☐ ☒

No cemeteries or known archaeological sites that could contain human remains have been identified in the immediate project area. However, if human remains were encountered, all legally required protocol would be followed. The result of an archaeological review lead to the finding that no known archaeological sites exist directly within the Area of Potential Effect for this project. However, due to the presence of the pre-historic cultural resource site (CA-VEen-110-the exact boundaries of which are not known).

4.1.6 GEOLOGY AND SOILS

Would the project:

Potentially
significant
Impact

Less Than
Significant
With
Mitigation

Less Than
Significant
Impact

No
Impact

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

☐ ☐ ☐ ☒

Implementation of the project would require excavation and recompaction, contour grading, installation of utilities, and connection of drainage collection facilities to the adjacent flood control channel. Grading would result in minor changes to surface topography.

Based on the review of several geological/seismologic report, it is our opinion that the potential for ground rupture is small and is not considered to be a significant hazard for this project.

There are no geological or geotechnical conditions that would preclude the construction of this project. The construction of this project should have no adverse effect on the existing environmental conditions.

Measures to Minimize Harm

1. All bridges and other structures would be designed to resist the maximum credible earthquake without collapse, structural damage or traffic obstruction.

Would the project:

Potentially
significant
Impact

Less Than
Significant
With
Mitigation

Less Than
Significant
Impact

No
Impact

ii) Strong seismic ground shaking?

☐ ☐ ☒ ☐

The project site is located in a seismically active area of Southern California; to reduce the risks from potential seismic hazards to acceptable levels, any project structures, such as bridges, would be designed and constructed in accordance with applicable seismic standards and building codes.

iii) Seismic-related ground failure, including liquefaction?

☐ ☐ ☐ ☒

Groundwater in this area is sufficiently deep to consider the potential for liquefaction to be negligible.

iv) Landslides?

☐ ☐ ☐ ☒

Due to the relatively flat topography, landslides are not anticipated.

b) Result in substantial soil erosion or the loss of topsoil?

☐ ☐ ☒ ☐

This project would have little impact on sediment delivery to Mugu Lagoon because most of the sediment is transported during major storms. However, compliance with National Pollutant Discharge Elimination System (NPDES) permit requirements for control of erosion and implementation of sediment control measures such as Best Management Practices would reduce potential impacts. Consequently, significant soil erosion and loss of topsoil during construction is not anticipated. Once completed, the proposed project would result in a similar amount or slight increase in paved area, and therefore would not contribute to soil erosion or the loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

☐ ☐ ☐ ☒

The potential for landslides, lateral spreading, subsidence, liquefaction or collapse is negligible.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks of life or property?

☐ ☐ ☐ ☒

Expansive soils are characterized by their ability to undergo significant change (shrink or swell) due to variations in moisture content. Changes in soil moisture content could result from rainfall, landscape irrigation, utility leakage, and/or perched groundwater and may result in unacceptable settlement or heave of structures, concrete slabs supported-on-grade, and/or pavements supported on these materials. The site soils are non-expansive.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

☐ ☐ ☐ ☒

The proposed project is a highway project and would not result in the generation of additional wastewater or a need for new septic tanks.

4.1.7 HAZARDS AND HAZARDOUS MATERIALS

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Hazardous waste may be transported on the proposed roadway facility. Federal, state, and municipal laws regulate the transport of hazardous wastes. Therefore, significant impacts are not anticipated as a result of project implementation.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Data supplied by Naval Air Station, Point Mugu indicated that the pesticide DDE was detected in sediments near the Calleguas Creek Bridge at levels of 2 to 4µg/kg. The Navy as well as other resource agencies have expressed concern that disturbance of these sediments could re-suspend contaminants and impact Calleguas Creek estuarine plants and animals. The sampling conducted for this project was performed to evaluate for the presence of pesticide contamination in the sediments near Calleguas Creek Bridge on Highway 1. Based upon site investigation no organic constituents (petroleum hydrocarbons, volatile organics, semivolatile organics) were detected in any of the surface and groundwater samples. Other physical constituents found include settleable matter; total suspended solids, cadmium and selenium were equaled or exceeded for the groundwater samples. Turbidity as shown by turbidity, settleable matter and total suspended solids was moderate in all four samples. This turbidity has likely contributed to the slightly elevated levels of metals found in the water samples. Also found were trace amounts of DDD, DDE and DDT ranging from 4.4 to 23 µg/kg. These levels are below the Total Threshold Limit Concentration (TTLC) of 1,000 µg/kg and EPA Region 9 Preliminary Remediation Goals (RPGs), which range from 1,700 to 2,400 µg/kg for DDD/DDE/DDT. The PCB, Aroclor 1260, was detected at trace levels ranging from 40 to 89 µg/kg, which is below the federal regulatory level of 50,000 µg/kg. The 220 µg/kg PRG for Aroclor 1260 was also not exceeded.

The Test Methods for Evaluating Solid Waste Physical/Chemical Methods Manual (SW-846) statistical analysis performed on the aerial deposited lead data indicates that the 90% and 95% Upper Confidence Level (UCL) for all excavation scenarios are well below the 350 mg/kg Department of Toxics Substances Control (DTSC) variance and hazardous waste disposal threshold establish for total lead. The calculated range of total lead in all excavation and reuse scenarios was 48 to 68 mg/kg. The predicted soluble lead concentrations for both confidence levels were below the Soluble Threshold Limit Concentration (STLC) hazardous waste threshold for lead of 5 mg/l. Based on the results of the lead data statistics, shallow soil excavated at the site is suitable for reuse and/or offsite disposal with no restrictions based on lead content. Also, none of the soil samples contained Title 22 metals (including lead) at concentrations exceeding their respective TTLC values as established in the Environmental Health Standards – Hazardous Waste Title 22 66261.24. None of the soil samples contained Title 22 metals at concentrations greater than 10 times their respective STLC. In addition testing of limited samples of possible asbestos containing of material from bridge revealed no

Asbestos Containing Material. The fish bioassay survival was 100% for the surface and groundwater samples collected on 10/26/00.

Groundwater and surface water samples collected on 10/26/00 were analyzed for the following inorganic constituents: chlorides, sulfides, nitrates and Title 22 metals (10). The NPDES daily maximum discharge limits for chlorides, sulfates, sulfides and nitrate/nitrites established by the California Regional Water Quality Control Board (RWQCB) for General NPDES discharge requirements from construction and project dewatering to surface waters in coastal watersheds of Ventura County are 150 mg/l, 250 mg/l, 1 mg/l and 10 mg/l, respectively. The NPDES daily maximum discharge limits for the 10 Title 22 metals ranges from 0.02 mg/l for mercury to 1.0 mg/l for copper.

Ground water and surface water samples collected on 10/26/00 and 1/4/01 were analyzed for the following physical parameters: Settleable Matter (SM), Total dissolved Solids (TDS), Total Suspended Solids (TSS), and Turbidity. Only the surface and groundwater samples collected on 10/26/00 were analyzed for an additional parameter, Biochemical Oxygen Demand (BOD). The NPDES daily maximum discharge limits for SM, TDS, TSS, Turbidity, and BOD established by RWCQB for General NPDES discharges requirements from construction and project dewatering to surface waters in coastal watershed of Ventura County are presented in Table 12.

Table 12. Summary of Analytical Results Supplemental Requirements for NPDES

Analyses	Detection Limits	Sample ID						NPDES Discharge Limitations	
		SW-1	SW-2	MW-1	MW-2	MW-1	MW-2	Daily Maximum	Monthly Average
Date Collected		10/26/00	10/26/00	10/26/00	10/26/00	1/4/01	1/4/01		
SM (mg/L)	0.10	0.2	0.7	0.5	0.4	0.3	0.10	0.3	0.1
TDS (mg/L)	10	1400	1200	870	1000	2100	1700		
TSS (mg/L)	10	25	380	95	240	210	51	150	50
Turbidity (NTU)	0.10	160	97	5.3	74	130	31	150	50
Chlorides (mg/L)	10	1400	1100	250	580	-	-		
Sulfates (mg/L)	2.5	180	140	200	210	-	-		
Sulfides (mg/L)	0.05	<0.05	<0.05	<0.05	<0.05	-	-	1	
BOD (mg/L)	5.0	<5.0	<5.0	<5.0	<5.0	-	-	30	20
Nitrates/Nitrites (mg/L)	0.12	4.9	3.8	.35	0.35	-	-		
TRPH (mg/L)	0.70	<0.7	0.7	0.7	0.7	0.5	0.5	0.01	
Oil & Grease (mg/L)	5.0	<5.0	<5.0	<5.0	<5.0	-	-	15	10
TPH-D (mg/L)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
SVOCs (ug/L)	10-50	<10-50	<10-50	<10-50	<10-50	-	-		
VOCs (ug/L)	5.0	<5.0	<5.0	<5.0	<5.0	-	-		

TPH-G (mg/L)	0.05	<0.05	<0.05	<0.05	<0.05	-	-		
Fish Bioassay		100%	100%	100%	100%	-	-		
Title 22 Metals (mg/L)		SW-1	SW-2	MW-1	MW-2	MW-1	MW-2	Daily Maximum	Monthly Average
		10/26/00	10/26/00	10/26/00	10/26/00	1/4/01	1/4/01		
Arsenic (As)	0.0050	0.0083	0.02	0.005	0.005	0.005	0.0077	0.05	
Boron (B)	0.050	0.8	0.64	1	1	-	-	0.005	
Cadmium (Cd)	0.0030	<0.003	0.01	0.003	0.003	0.003	0.003	0.05	
Chromium (Cr)	0.0030	<0.003	0.02	0.0035	0.0035	0.0035	0.01	1	
Copper (Cu)	0.0030	0.0079	0.04	0.0056	0.0056	0.05	0.0062	0.05	
Lead (Pb)	0.0050	<0.005	0.01	0.005	0.005	0.005	0.0059	0.01	
Selenium (Se)	0.0050	0.02	0.01	0.005	0.005	0.01	0.005	0.05	
Silver (Ag)	0.0010	0.0016	0.01	0.001	0.001	0.003	0.003		
Zinc (Zn)	0.0100	0.01	0.08	0.02	0.02	0.02	0.07	0.02	
Mercury (Hg)	0.0040	<0.004	<0.004	0.004	0.004	0.004	0.004		
Antimony (Sb)	0.0050	-	-	-	-	0.005	0.0064		
Barium (Ba)	-	-	-	-	-	0.05	0.08		
Beryllium (Be)	0.0030	-	-	-	-	0.003	0.003		
Cobalt (Co)	0.0030	-	-	-	-	0.003	0.003		
Molybdenum (Mo)	0.0050	-	-	-	-	0.08	0.07		
Nickel (Ni)	0.0030	-	-	-	-	0.0037	0.005		
Thallium (Th)	0.0050	-	-	-	-	0.005	0.0067		
Vanadium (V)	0.0030	-	-	-	-	0.01	0.003		
PH		7.70				7.28	7.93	60.-9.0	

Key: NPDES= National Pollutant Discharge Elimination System, - =not analyzed, TRPH =Total Recoverable Petroleum Hydrocarbons, TPH-D = Total Petroleum Hydrocarbons-Diesel, , TPH-G =Total Petroleum Hydrocarbons-Gasoline, NTU= Nephelometric Turbidity Units, VOC=Volatile Organic Compounds, SVOC =Semivolatile Organic Compounds, mg/L =miligrams per liter, ug/L = micrograms per liter

PRGs are used to estimate contaminant concentrations in environmental media (soil, air, and water) that are protective of human health, including sensitive groups, over a lifetime. These pesticides are typically carried with sediment, but can be released into surrounding water. Re-suspension of any contaminants may have an effect on federal and state listed species as well as estuarine invertebrates, fish, birds and salt marsh plants. Chemical concentrations above these levels would not automatically indicate that a significant risk to human health exists or that a response action is necessary. However, exceeding a PRG suggests that further evaluation of the potential risks that may be posed by site contaminants is appropriate.

Measures to Minimize Harm

1. Limit the scope of work when pier columns are to be installed, thereby reducing disturbance of the creek,
2. Reduce working period when the job involves to disturb the creek, and
3. Coordinate with the U.S. Fish & Wildlife Service- Ventura Field Office for consultation when selecting the working season because several protected animals may appear in a specific season
4. Sediments will be tested during the construction work instead of before work is initiated. Soil will be properly disposed of at an appropriate permitted disposal facility.
5. If Lead (Pb) contaminated soil will be reused in this project, Caltrans needs to provide a soil report for lead which includes lead contaminated level and deposited location to the LARWQCB at least 30 days before the project is advertised. Caltrans will prepare the NOC.
6. Lead will be placed only in Caltrans right-of-way. Based on concentration levels, the waste will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt cover and will always be five feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers. This includes any persons engaged in maintenance work in areas where that waste has be buried and covered.
7. Based upon the VISTA information, many leaking underground storage tank (LUST) cases were reported in the downstream of Calleguas Creek, inside the Navy Base. The presence of these LUSTs at downgradient locations do not appear to present a significant environmental concern to the project site.

Would the project:

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No schools exist within a one-quarter mile radius of the proposed project site.

Would the project:

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project site is not located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Nonetheless, a Phase II environmental assessment was conducted for the proposed project and determined current or past uses has not created a previously unidentified significant hazard to the public or the environment.

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project would be located approximately 1/4 miles from the Navy Airbase. Safety hazards for the people residing or working in the project area are not anticipated.

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project would not be located in the vicinity of a private airstrip.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The proposed project is not expected to interfere with an adopted emergency plan or evacuation plan. However, potential temporary lane or highway closures may be required during construction, which could affect emergency vehicle access. The design, construction, and operation of the proposed project would be coordinated by Caltrans in consultation with emergency services staff to ensure that construction activities would not significantly impair or affect emergency plans and procedures. Once completed, it is anticipated the proposed project would improve circulation in the study area, which could have a beneficial effect on emergency services response time.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project is located in a rural area of Ventura County. There are no wildlands adjacent to the proposed project site. Therefore, exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires is not anticipated.

4.1.8 HYDROLOGY AND WATER QUALITY

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Surface and groundwater samples show no organic constituents (Volatile Organic Compounds (VOC), Semi- Volatile Organic Compounds (SVOCs), oil and grease, Total Petroleum Hydrocarbons- Diesel (TPH-D), Total Petroleum Hydrocarbons- Gasoline (TPH-G), Total Recoverable Petroleum Hydrocarbons (TRPH)) were detected at concentrations at or above their respective laboratory instrument detection limits in any of the surface water and groundwater samples.

Various NPDES dewatering permit discharge limits establish for the project area, including settleable matter, total suspended solids, and the metal cadmium and selenium, were equaled or exceeded for the groundwater samples. Turbidity, as it is directly related to settleable matter and total suspended solids, was moderate in all four groundwater samples and has likely contributed to the elevated levels of the metals cadmium and selenium that were detected in the groundwater samples. It is possible that the elevated cadmium and selenium concentrations resulted from the laboratory digestion of silt and clay particles that were suspended in the groundwater samples.

Creek sediment sample results indicated DDD, DDE and DDT were detected in 29 of the 30 creekbed sediment samples at concentrations ranging from 4.4 to 23 micrograms per kilogram (µg/kg). These

concentrations are all well below the California Total Threshold Limit Concentration (TTLC) of 1000 ug/kg established for DDD, DDE, and DDT. In addition, the concentration of DDD, DDE, and DDT did not exceed their respective US EPA Region 9 Preliminary Remediation Goals (PRGs) of 2,400, 1,700, and 1,700 µg/kg for soil in a residential setting (residential PRGs). No additional organochlorine pesticides were detected at or above their respective laboratory instrument detection limits. Aroclor 1260 was the only PCB detected in the creek sediment samples and was found at concentrations ranging from 40 to 89 µg/kg which are well below the California TTLC and residential PRG of 50,000 µg/kg and 220 µg/kg, respectively. None of the creek sediment samples contained California Code of Regulations Title 22 metals at concentrations exceeding their respective TTLCs and residential PRGs. In addition, none of the soil samples contained Title 22 metals at concentrations greater than 10 times their respective California Soluble Threshold Limit Concentration (STLC).

PRGs are used to estimate contaminant concentrations in environmental media (soil, air and water) that are protective of human health, including sensitive groups, over a lifetime. Chemical concentrations above these levels would not automatically indicate that a significant risk to human health exists or that a response action is necessary. However, exceeding a PRG for a specific contaminant suggests that further evaluation of the potential health risks that may be posed by site contaminant is appropriate. As discussed, none of the residential PRGs established for the constituent analyzed were exceeded in the creek sediment samples collected as a part of this project. Residential PRGs are generally lower and considered more conservative than industrial PRGs, which are developed for industrial settings.

The sediments within Calleguas Creek are contaminated with organochloride pesticides and other agricultural chemicals. Although construction activity will occur within the creek, measures will be implemented, following coordination with the resource agencies, that will minimize the amount of suspended sediments that will be allowed to flow downstream beyond the project limits.

Measures to Minimize Harm

Refer to Section 4.1.4 for Measures to Minimize Harm.

Would the project:	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Estimates of the amount of increased or decreased percolation due to the project are identified in the "Basin Plan" of the California Regional Water Quality Control Board – Los Angeles Region 4. It identifies the project to be within the Calleguas-Conejo Creek Watershed, hydrologic Sub Area 403.11, which has a watershed area of 75161 acres. However, groundwater storage and groundwater elevations beneath the project boundaries should not be changed substantially. The project area encumbers a total of 0.4592 acres of which an existing 0.1342 acres (29.2%) is paved, and the remainder is compacted median base material. The amount of compacted freeway median to be paved by this project is 0.0201 acres.

The project consists of improving bridge and bridge railings by utilizing the existing freeway median. The existing freeway median consists of compacted base material, and the coefficient of imperviousness is considered to be 90 percent based on Caltrans Highway Design Manual. Paved areas are considered to be 95 to 100 percent impervious. Therefore, there should be a minimal increase in the amount of wet weather flows (runoff) experienced from this project. See response to question 4 for numerical estimates of amount of additional runoff, and total project runoff.

This project consists of replacing guard railings and widening bridge using median material (which consists of compacted base material). Since compacted base material is considered to be 90 percent impervious and paved areas are considered to be 95 to 100 percent imperviousness for paved areas, there should not be a significant change in percolation due to the project. The existing paved project area of 0.1342 acres represent 0.00018 percent of the watershed. The final paved project area will be 0.1811 acres and represent 0.00024 percent of the watershed. There is a minimal change in the surface water runoff. The minimal ratio of project area to the watershed discharging into Mugu Lagoon will not adversely affect the surface water runoff. Therefore, conversely it can be concluded that there should also be a minimal change in percolation.

Relatively minimal amounts of water may be used during construction for activities such as cement mixing, dust control, and vehicle washing and maintenance. During operation, small amounts of water may be used to irrigate landscaping. This minor water consumption would not substantially deplete groundwater supplies. The project may result in a slight increase in impervious surfaces, which would have a negligible effect on groundwater recharge.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-or offsite?

☐ ☐ ☒ ☐

Water erosion of exposed soils during construction could result in sediment loading on downstream water bodies. However, given the size of the project, relatively flat topography of the area, and the fact that the project would comply with NPDES permit erosion control measures, significant impacts are not anticipated.

Soil loss would occur as a result of grading and surface disturbance. The type and degree of soil loss depends on the extent of erosion control measures and final project design. Soil movement resulting from sheet and channel erosion associated with large scale grading could have an effect on water quality due to sedimentation downstream. Unusually heavy rainfall during construction would greatly increase the magnitude of potential impacts. With proper erosion control and runoff management plans, these impacts would be reduced.

For both short and long term water quality impacts, temporary as well as permanent Best Management Practices (BMPs) will be identified during final design when there is sufficient engineering details available to warrant competent analysis. Caltrans is committed to implement cost effective temporary and permanent BMPs as identified during final design.

Short-term construction impacts to water quality would result. This temporary impact would occur during construction periods, and is not considered an adverse impact to water quality. Excavated materials and related earthwork activities from additional sections of depressed alignment have the potential to increase erosion and sediment flow into receiving watercourses. Mudslides are common occurrences at construction sites if the open slopes are not properly protected against erosion and

slippage. These conditions may exist intermittently until the project is completed, and permanent slope protective measures and landscaping are established.

Measures to Minimize Harm

1. For project constructed in a total disturbed area of less than one (1) acre, use WPCP and SSP 07-340.
2. For projects with a total disturbed area more than one (1) acre, use SWPPP, SSP 07-345 and an NOC.

Would the project:

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

According to the Federal Emergency Management Agency (FEMA) Flood Hazard Map, the proposed project is located in a floodplain. Project implementation could result in minor increases in impervious surfaces and surface water runoff. The proposed project would not alter the course of any river or stream.

The risk to property damage upstream associated with the proposed project is low. The project does not contain a longitudinal encroachment. The risk associated with implementation of the project is not significant. There are no significant impacts on natural and beneficial floodplain values. The project does not contain a significant encroachment.

e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Estimate of the amount of runoff generated by the project during wet and dry seasons (i.e. weather) is described below. Dry-weather flows are usually low-volume flows not resulting from precipitation. The quality of these flows is largely a function of the flow source, rather than the land uses the flows contact en route to the receiving body. Because dry-weather flows cannot be quantified, dry weather flows analysis is limited to the identification of factors that are likely to increase or decrease their occurrence. Sources of pollution potentially resulting in dry weather flows should be evaluated by projecting the activities to occur within the project limits. Examples of activities are wastewater, groundwater infiltration, irrigation runoff and car and industrial wash water. This project will not increase activities commensurate with dry weather flows. Therefore, there should be no increase of dry weather flows.

Upon completion of the project, runoff from the roadway surface could contain urban pollutants such as particulate and lead from tire wear, motor oil, grease, etc. Highway runoff has the potential of affecting water quality downstream from the project site. The amount of contaminants depends primarily on the amount of traffic, as well as the area being washed off. Given the size and the fact the project would not include new development that would generate additional vehicle trips, significant impacts are not anticipated.

The proposed project site is currently undeveloped agricultural land. The proposed project could result in minor increases in surface water runoff. However, the proposed project would include any required storm drain improvements, if any, to accommodate anticipated runoff volumes.

Measures to Minimize Harm

1. A Water Pollution Control Plan will be developed by the contractor, and approved by Caltrans and the state and federal resource agencies. This Plan will incorporate the resource agency approved methodology as well as all other appropriate techniques for reducing impacts to water quality.
2. The water pollution control plan will incorporate control measures in the following categories: Soil stabilization practices; sediment control practices; sediment tracking control practices; wind erosion control practices; and non-storm water management and waste management and disposal control practices

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The Los Angeles Regional Water Quality Control Board (Region 4) has jurisdiction over the Calleguas Watershed. The proposed project will require the disturbance of soil and riverbed sediments to construct new abutments and piers to support widening. Consequently, the potential exists for disturbed soil to erode, resulting in sediment discharge into Calleguas Creek, as well as for resuspension of disturbed riverbed sediments. Calleguas Creek has been classified an impaired water body by the State of California due to high levels of pesticides found in the sediment and fish tissue.

Estimates of concentrations (ppb) and loads (lbs/day) from point and non-point sources of each of the constituents for which the system is impaired can be assessed on an average annual basis using average pollutant concentration data from other published water quality investigations if available. See attached for an estimate of pollutant loads in Appendix D. This data was collected by Caltrans Headquarters Environmental Engineering Unit, from various highway facilities, and represents constituents typically found in highway runoff. This data was then used to develop a "Water Quality Planning Tool" to estimate water quality of highway runoff.

Activities associated with pollutants discharged through dry weather flows would be limited to landscape irrigation and/or utility leakage. Since the majority of this project is on a bridge, within the freeway median, there would be minimal to no discharge of dry weather flows onto the freeway pavement and into the storm drain system. The majority of the irrigation water should be absorbed into the freeway slopes. Therefore dry weather flows should not increase as a result of this project. As a result this impact would be less than significant.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The proposed project is a road improvement project and would not place housing within a 100-year flood hazard area. No impacts are anticipated.

Would the project:

Potentially
significant
Impact

Less Than
Significant
With
Mitigation

Less Than
Significant
Impact

No
Impact

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

☐ ☐ ☒ ☐

Estimates of the net change in cubic feet per second of groundwater and surface water contributions under historic drought conditions and 10-year, 50-year, and 100-year flood conditions. Wet-weather flows should have a minimal increase. The project consists of bridge widening by utilizing the existing freeway median and using additional material. The freeway median consists of compacted base material, as such the coefficient of imperviousness is considered to be 90 percent based on Caltrans Highway Design Manual. Paved areas are considered to be 95 to 100 percent impervious. The amount of compacted freeway median that will be paved by this project is 0.0201 acres.

Since the bridge is approximately 73 feet in length, and the freeway drainage systems outfall to numerous different watercourses, it is impossible to calculate a singular value for each of the change in Q (10), Q (50), and Q (100) events. Alternatively a change in the runoff per acre would be a more practical and realistic approach to take. Based on this approach and using the Rational Equation with values of C = 0.90 for unpaved median and C = 1.0 for pavement, the increase in surface water flow rates were estimated to be:

$$Q_{10} = 1.56 * 10^{-6} \text{ cfs/acre} \quad Q_{50} = 2.03 * 10^{-6} \text{ cfs/acre} \quad Q_{100} = 2.26 * 10^{-6} \text{ cfs/acre}$$

The net change in cubic feet per second of groundwater contributions should be less than significant since most of the rainfall associated within existing site conditions is direct runoff, and not percolation. This change would represent less than a $1.0 * 10^{-6}$ percent reduction in the total groundwater inflows estimated, and would not substantially change groundwater storage or groundwater elevations beneath the project boundaries.

The Calleguas Creek bridges are subject to frequent overtopping due to inadequate flow area. The flow area of the existing bridges is not adequate for a 50-year flood, Q_{50} . The existing bridges do not meet minimum required 610mm clearance between Q_{50} water surface and soffit. Overtopping will continue to occur and existing maintenance problems and safety conditions will be the same. Bridge replacement is not programmed at this time for these structures.

The proposed project would not construct structures within a 100-year flood hazard area. Therefore, no impacts are anticipated as a result of project implementation.

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

☐ ☐ ☐ ☒

The project site is not located within a dam or levee inundation area. Therefore, no impacts are anticipated.

j) Inundation by Seishi, tsunami, or mudflow?

☐ ☐ ☐ ☒

The proposed project is not located near any large lakes or water bodies, so inundation by a Seishi would not occur. Due to the proposed project area's inland location, the area would not be exposed to earthquake-induced sea waves called tsunamis, nor would inundation by mudflow be likely due to the flat topography of the area.

4.1.9 LAND USE AND PLANNING

Would the project:

Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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a) Physically divide an established community?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project will not physically divide an established community.

Implementation of the State Route 1 improvement project would not result in disproportionately high or adverse impacts on minority or low-income neighborhoods or communities. No denial or substantial delay in the receipt of benefits from Caltrans programs, projects, policies, or activities is expected to occur (See Title VI statement in Appendix E).

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The State Route 1 improvement project is consistent with Southern California Association of Government's (SCAG) 1998/99-2004/05 RTIP, and the State Transportation Improvement Program. The proposed project is intended to meet the existing and projected traffic demand based upon the local land use

The project is within the Coastal Zone. The coastal zone is located approximately Caltrans OEP will coordinate with Ventura County and State Coastal Commission and will prepare a draft CDP application for submittal to the State Coastal Commission. We will also coordinate with the State Coastal Commission regarding a federal Coastal Zone Management Act consistency certification.

Permits

- Coastal Development Permit from California Coastal Commission and Ventura County Planning Department.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project is located adjacent to Mugu Lagoon. The proposed project would not conflict with any habitat conservation or natural community conservation plans. Therefore, significant impacts are not anticipated as a result of project implementation.

4.1.10 MINERAL RESOURCES

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project is located in an agriculture and military land use area. There are no known mineral resources in the immediate area. No impacts are anticipated.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project is not delineated as a mineral resource recovery site on any local land use plans.

4.1.11 NOISE

Would the project:

Potentially
significant
Impact

Less Than
Significant
With
Mitigation

Less Than
Significant
Impact

No
Impact

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

☐ ☐ ☒ ☐

The predicted future noise levels are not expected to exceed the existing noise levels once the project construction is completed since the project will not increase highway capacity or number of through lanes. The proposed project will not expose persons or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

The proposed project will not permanently increase ambient noise level as shown in Table 14.

Table 14. Predicted Traffic Noise Levels

Distance m (ft)	Highway Traffic sound Levels*
15.2 (50)	71.0
30.5 (100)	66.5
45.7 (150)	63.2
61.0 (200)	62.0
76.2 (250)	59.5
91.4 (300)	58.7
106.7 (350)	58.0
121.9 (400)	57.5
137.2 (450)	55.5
152.4 (500)	55.0

Note: Distance is from the closest expected pile driving operations to nesting area.

*Sound levels calculated using the line and point source attenuation for geometric spreading

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

☐ ☐ ☐ ☒

Pile driving will be the loudest single noise source in the vicinity of the project during the construction phase. Also, demolition of bridge structures, grading, and paving activities, significant impacts are not anticipated. No blasting would not be required. The noise propagation analysis results show that the noise generated by the impact pile driver will be higher than that of the existing traffic noise by approximately 10 dBA in the expected Belding's savannah sparrow nesting area. Due to the high noise levels of impact pile driving, the use of vibratory or screw-type pile drivers should be considered as their noise signature is up to 17 dBA lower and constancy of the noise generated by the latter should be less disturbing to the sparrow population.

Would the project:

Potentially
significant
Impact

Less Than
Significant
With
Mitigation

Less Than
Significant
Impact

No
Impact

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

☐ ☐ ☐ ☒

Refer to 4.1.11 a)

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

☐ ☐ ☐ ☒

Construction of this project will require the use of heavy equipment with high noise level characteristics, particularly pile drivers, with those of the impact type being the loudest as shown in Table 15. Typically, construction equipment ranges from concrete mixers and generators producing noise levels in the 80-decibel range, at a distance of 50 feet (15.2m) from the source, to jackhammers at over 90 decibels and pile drivers whose peaks extend over 95 decibels.

Table 15. Predicted Construction Noise Levels

Distance m (ft)	Construction Sound Levels*
15.2 (50)	97.0
30.5 (100)	89.5
45.7 (150)	84.5
61.0 (200)	82.0
76.2 (250)	78.5
91.4 (300)	76.9
106.7 (350)	75.6
121.9 (400)	74.4
137.2 (450)	71.9
152.4 (500)	71.0

Note: Distance is from the closes expected pile driving operations to nesting area.

*Sound levels calculated using the line and point source attenuation for geometric spreading

Measures to Minimize Harm

1. All diesel equipment shall be operated with closed engine doors and shall be equipped with factory recommended mufflers.
2. For all noise generating construction activity on the project site, additional noise attenuation techniques shall be employed, as needed and feasible, to reduce noise levels. Such techniques may include, but are not limited to, the use of sound blankets on noise generating equipment and construction of temporary sound barriers between construction sites and nearby sensitive receptors.

Would the project:

Potentially
significant
Impact

Less Than
Significant
With
Mitigation

Less Than
Significant
Impact

No
Impact

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

☐ ☐ ☐ ☒

The nearest airport, the Point Mugu Naval Airbase, is located approximately 1/4 miles from the proposed project site. The proposed project would not expose people residing or working in the project area to excessive noise levels from airport facilities.

- f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

☐ ☐ ☐ ☒

The proposed project is not located within the vicinity of a private airstrip.

4.1.12 POPULATION AND HOUSING

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension or roads or other infrastructure)?**

☐ ☐ ☐ ☒

The proposed project will not increase highway capacity or number of through lanes to support new residential developments. The project is located in a developed urban area that currently includes a system of roads and highways and other infrastructure improvements. The proposed project does not connect any currently undeveloped areas. For these reasons, the project is not expected to induce, directly or indirectly, growth or increases in population.

Caltrans guidance for the analysis of growth inducement impacts defines the relationship between the proposed project and growth within the project area. Basically, the relationship is either one of facilitating planned growth or inducing unplanned growth. The former is consistent with Caltrans intent to design projects that correspond with local and regional governments' plans and policies for future growth. The latter may constitute a potentially adverse impact, as it may conflict with local government's plans for growth and land use. Unforeseen growth may also overburden utilities, resources, and public services in the affected area.

The components of this analysis of the project's potential for inducing growth consisted of the proposed growth in the area, the potential for additional growth, and traffic forecasted for the Build and No Action scenarios. The traffic-forecast model included such parameters as local and regional socioeconomic data; local growth and land use development policies and planning goals, as well as development constraints, which are discussed later in this section. The growth and land use development policies, planning goals, and planned projects are discussed below.

Provided below is a summary of the existing policies, programs and procedures for Ventura County.

The County General Plan includes a year 2010 Regional Road network which is based on development which would occur under city and county land use plans in effect at the time of

The Ventura County *General Plan, Goals, Policies, and Programs* lists the following goals related to future growth policies:

- General Goals, Policies, and Programs, Goal 1: Ensure that the county can accommodate anticipated future growth and development while maintaining a safe and healthful environment by preserving valuable natural resources, guiding development away from hazardous areas, and planning for adequate public facilities and services. Promote planned, well-ordered and efficient land use and development patterns.
- Population and Housing, Goal 2 (Consistency with Public Facilities and Service Capacity): Ensure that the rate and distribution of growth within the county does not exceed the capacity of public facilities and services to meet the needs of the county's population and to protect the public health, safety, and welfare.

The County of Ventura and several jurisdictions within the county adopted growth limitation initiatives in late 1998, which will place severe restrictions on the physical growth of urbanized areas. Secondly, the state has once again funded the Regional Housing Needs Assessment program, or RHNA, requiring all Southern California jurisdictions to update their General Plan Housing Elements by June 30, 1999, and to establish new targets for low- and moderate-income housing.

These principles limit or prohibit unplanned projects or those, which would induce growth. This proposed project would be consistent with these principles, since the project was included in the Southern California Association of Governments (SCAG) Fiscal Year (FY) 1999/2004 *Regional Transportation Improvement Program* (RTIP), and is designed only to serve existing and currently planned growth.

The analysis of induced growth also included review of traffic forecasts for the project. A traffic impact study was prepared for this project in 1999. Caltrans District 7 provided future traffic volumes from their respective traffic models. In some instances, the traffic volumes differed from those presented in the Project Study Report for the project because information related to future development intensity in the local area was not previously available. A comparison was made between the traffic volume capacity of the proposed project and the No Action scenario to determine whether the proposed project is consistent with local and regional growth policies.

Essentially, this project is designed to accommodate the traffic projected to be generated by planned growth. The project was not designed with excess capacity, which could induce unplanned growth during the twenty-year period following project completion.

In summary, the proposed project has been designed to accommodate but not exceed the traffic volume capacities anticipated in 2024. Additionally, the proposed project is consistent with the growth and planning goals of the local jurisdictions, and with the "pre-existing" planned growth in the area. Caltrans and the Ventura County Transportation Commission have been in close coordination for several years identifying the need for the project. Based on this information, and in accordance with NEPA and CEQA, it is concluded that the proposed project facilitates planned growth and would not substantially induce growth.

Would the project:

Potentially
significant
Impact

Less Than
Significant
With
Mitigation

Less Than
Significant
Impact

No
Impact

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

☐ ☐ ☐ ☒

The proposed project would not require the acquisition and displacement of single family homes or apartment rental units. There are no residential relocations, and no residential areas would be directly or indirectly affected by the proposed project.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

☐ ☐ ☐ ☒

There would be no residential or business displacements resulting from the proposed project.

4.1.13 PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

☐ ☐ ☐ ☒

The proposed project consists of the widening of an existing roadway. The project does not include new residential, commercial, or industrial development that could increase the need for fire protection services.

Police protection?

☐ ☐ ☐ ☒

The proposed project consists of the widening of an existing roadway. The project does not include new residential, commercial, or industrial development that could increase the need for fire protection services.

Schools?

☐ ☐ ☐ ☒

The project does not propose any residential uses. Therefore, no increases in student enrollment would occur as a result of the project. Construction activities and equipment could pose hazards to children traveling to and from schools in the area. To minimize potential impacts, the Caltrans will notify local school officials of measures such as proper signing, fencing, detours, and haul routes to mitigate potential impacts.

Other public facilities?

☐ ☐ ☐ ☒

Implementation of the proposed project is not expected to result in a significant impact on other public facilities. An existing water line attached to the downstream side of the L bridge will be relocated.

4.1.14 RECREATION

Would the project:

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The nearest park is(Point Mugu State Park) located south of Calleguas Creek. Since the proposed project is a bridge widening project and would not include new residential development, an increased demand for local and regional park resources is not anticipated.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project would not include or require the construction or expansion of recreational facilities.

4.1.15 TRANSPORTATION/TRAFFIC

a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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This project will not result in an increase traffic capacity.

Would the project:

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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In 2024 with construction of the proposed project the level of service would improve to B. An increase in level of service indicates reduction of congestion level, which will improve safety, travel time and driver comfort.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The project involves widening a bridge and will not impact air traffic.

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project involves widening a bridge and does not include sharp curves or other design features that are expected to result in significant hazards.

e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Some construction may require temporary State Route 1 closure and/or late night closures. A Traffic Management Plan (TMP) would be completed for the construction of the project. Adequate public notices and posted announcements would be required to alert motorists about different construction stages and lane closures. During the early and final stages of construction, the placement and removal of K-rails may cause traffic delays. The actual number of stages needed and details for the TMP would be developed during final design of the project. All existing lanes would be opened to traffic during construction.

Once completed, the proposed project would improve circulation in the area and consequently may have a beneficial effect on emergency vehicle access and response times.

Measures to Minimize Harm

1. Provide Traffic Management Plan (TMP) for the control and safety of traffic, temporary traffic detour schemes, access plans, and temporary traffic control signs and signals would be developed in detail in conjunction with local officials during the final design phase of the project.

f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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On-street parking is currently not permitted on State Route 1. Therefore, no impacts are expected.

Would the project:

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation. The project is included in the Circulation Element of the County's General Plan.

4.1.16 UTILITIES AND SERVICE SYSTEMS

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project does not include the construction of new development that would generate wastewater. No impacts would occur.

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project does not include the construction of new development that would generate wastewater. No impacts would occur.

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project would include necessary street drains to accommodate anticipated runoff from the proposed highway. Significant impacts are not anticipated.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Minimal amounts of water would be consumed during construction and for landscaping upon completion of the project. Impacts on water supply would be insignificant. No new or expanded entitlements would be required.

e) Result in a determination by the wastewater treatment provider that services or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project does not include the construction of new development that would generate wastewater. No impacts would occur.

Would the project:

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Construction of the proposed project would result in demolition debris requiring disposal. This one-time impact is not expected to significantly affect the capacity of local landfills.

g) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project would comply with all applicable federal, state, and local statutes in relation to solid waste regulations.

4.1.17 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The proposed project would have no substantial effect on biological resources, nor would it adversely affect cultural resources. Refer to 4.1.4.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The proposed project and related growth in the area could result in potential cumulative air quality, traffic, and biological impacts.

The CEQA Guidelines, Section 15130, states that "cumulative impacts shall be discussed when they are significant. The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project alone." As stated in Section 15355 of the State California Environmental Quality Act (CEQA) Guidelines:

"Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probably future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

In accordance with NEPA 40 CFR 1508.7, cumulative effects "which result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions" shall be discussed.

CEQA and NEPA provide for various methods to achieve an adequate discussion of cumulative impacts. The Ventura County General Coastal Plan, 12/10/96, was reviewed to determine whether the State Route 1 project impacts were already included in the analysis. If not, the State Route 1 project

impacts were then added to the forecasted impacts to determine the likelihood that cumulative impacts would occur.

1. Geology and Soils: Seismic hazards are experienced throughout Southern California, including in the project area. With or without the State Route 1 project, people would be exposed to such hazards as fault displacement/ground rupture, seismic groundshaking, liquefaction, differential settlement, subsidence, and landslides. The project would not increase or decrease these hazards, nor would it introduce additional population into an area where these hazards exist. Thus, the project would not contribute to cumulative geology or soils impacts.
2. Land Use and Socioeconomic: The proposed State Route 1 improvements are consistent with both the Ventura Plan, and would not contribute to land use impacts not addressed in the aforementioned general plans.

The project would provide short-term employment opportunities (construction) and contribute to an overall increased economic activity in the long term by improving accessibility within and to the project area.

The disruption of traffic on the freeway that would result from project construction is a temporary occurrence and would not contribute to a cumulative impact. Impacts related to relocation of utilities would be temporary, and not substantial on either an individual or cumulative basis.

3. Biological Resources:

The following Caltrans and non-Caltrans projects in the vicinity of the Hwy. 1/Calleguas Creek Bridge are known to be under construction or in the planning stages:

Caltrans will be rehabilitating the portion of SR 1 from 0.2 kilometers (km) south of Calleguas Creek to 1.3 km south of the Pleasant Valley Rd. overcrossing in the near future (the exact dates are not yet known). Caltrans will also be rehabilitating the stretch of SR 1 south of Calleguas Creek, between Guadalupe Rd. and the Los Angeles County line, sometime during 2001. These are both minor projects that will affect only the paved surfaces or immediately adjacent shoulders.

Another Caltrans project, pursued jointly with the County of Ventura, is the widening of Lewis Rd. between Ventura Blvd. and Hueneme Rd.; this will include either the widening or the replacement of the bridge over Calleguas Creek (Rincon, 2000). This project could negatively impact the wildlife corridor linkage between Calleguas and Long Grade Canyon Creeks through the widening of Lewis Rd. from 2 lanes to 4. The proposed project will have only minimal and temporary impacts on the use of Calleguas Creek as a movement corridor. It is not expected to contribute to any long-term reduction in corridor usage.

The NAS Pt. Mugu has recently prepared a Draft EIS/OEIS (Overseas EIS) for the various alternatives associated with their proposed modifications to the Point Mugu Sea Range (NAWCWPNS, 2000). This document describes the existing resources and potential impacts from that project. Of the sensitive resources that the Sea Range project has in common with the Calleguas Creek Bridge widening, the potential impacts are described as minimal and insignificant.

The Camrosa Water District will be installing a diversion structure during the Fall of 2000 that will reduce the dry weather water flow in Calleguas Creek by approximately 1/2.

The Ventura County Flood Control District periodically mows the vegetation in Calleguas Creek upstream of the Hwy. 1 bridge. This is usually done once a year, in mid-August, from the Hwy. 1 bridge north to the Hospital Bridge.

As described below, the proposed project will be carried out utilizing appropriate measures to avoid and minimize impacts to sensitive species, habitats, and other resources; it will not have any long-term impacts. Short-term impacts to sensitive resources will be minimized to the greatest extent practicable and mitigated, where possible, following construction. This project will not contribute significantly to any cumulative impacts on these resources.

4. Archaeological/Historical Resources: No other projects are known that would affect the cultural resources of the project area. Impacts of other projects are not additive with those of the proposed project, such that significant cumulative impacts would not occur.
5. Hydrology: The lagoon is adjacent to State Route 1, which has greatly constrained tidal flows within the lagoon and narrowed the ocean inlet. As a result of the reduced tidal flushing, sand and cobble tend to accumulate at the lagoon inlet, further reducing tidal flows. This eventually leads to the mouth of the lagoon becoming closed. At the same time, urbanization within the watershed contributes 25 to 30 thousand tons of sediment each year with only 10 thousand tons going to the ocean. The sediment builds up and tidal circulation decreases; salt water marsh species are displaced with others that further decrease tidal circulation. The lagoons have been gradually deteriorating for many years due to the cumulative impacts of hydrological and land use changes. However, these impacts are not a result of the highway but by other sources.
6. Traffic and Transportation: By design, the State Route 1 project would have beneficial traffic and transportation impacts, and would not contribute to cumulative adverse impacts.
7. Air Quality: As a result of congestion reduction which would result from the project, State Route 1 improvements would have a beneficial impact on air quality, and would not contribute to cumulative adverse impacts.
8. Noise: Noise-sensitive receptors adjacent to State Route 1 would be temporary exposed to freeway construction equipment noise impacts. Noise impacts related to State Route 1 improvements would contribute to the existing and growing urban noise impacts.
9. Water Quality: The State Route 1 project would result in very minimal increases in impervious areas and in the quantity of runoff, and minimal reductions in the recharge of groundwater levels. Such minimal impacts to groundwater recharge quality would combine with those from other projects related to the conversion of land to urban uses to result in cumulative impacts to water quality.

Surface water occasionally experience degradation of water quality, related to urban and agricultural runoff. The State Route 1 improvements would result in small contributions to the urban runoff. The cumulative impact to surface water quality would continue to degrade the water quality in the rivers/creeks by other sources. The greatest threat to groundwater quality in the area is the potential intrusion of agricultural runoff and leaching. The State Route 1 project would not contribute to either of these cumulative groundwater impacts.

10. Hazardous Materials: The State Route 1 improvements would not affect hazardous materials within the project area, and would not contribute to this cumulative impact.

11. Visual Resources: Visual changes would occur due to the State Route 1 improvements. These visual changes would result in negative impacts at some, but not all, viewpoints. It is very difficult; however, to discuss whether the cumulative visual effect of the build-out of the Ventura Plan, including the State Route 1 improvements, would be positive, negative, or neutral. The area as it exists does not have a strong visual character. The most important views are those of the mountains and ocean. The State Route 1 project would not cause visual impacts to these major vistas within the area.

	Potentially significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Construction and operation of the proposed project will not have substantial adverse effects.

4.2 Summary of Measures to Minimize Harm

Aesthetics

1. Open bridge barriers are preferred over solid bridge barriers for three reasons: improved drainage during periods of flooding, improved viewing opportunities for motorists and the open barrier serving as a "passive" vandal deterrent.
2. Revegetate the banks of the creek during and at the conclusion of the construction period utilizing native estuarine species. Eliminate exotic species. Disturbed areas would be revegetated with the same native species after construction to protect and enhance the visual compatibility.
3. Suggested plant material for the vegetated riprap includes Fremont Cottonwood (*Populus fremontii*), Salix sp. and Mule Fat (*Baccharis viminea*). Other species associated with this native estuarine plant community are Coyote Bush (*Baccharis pilularis*), Saltbush (*Atriplex lentiformis*), Arroyo Willow (*Salix lasiolepis*), and Jimson Weed (*Datura meteloides*). This material should be planted during revegetation.
4. Where Calleguas Creek stream banks are disturbed in the course of widening, the existing rock & mortar slope protection should be removed and replaced with vegetated riprap or a similar biotechnical erosion control method.
5. Grading on the riverbanks should be kept to a minimum and contoured to blend with the existing topography.
6. Signage should be consolidated whenever possible. Consolidating and organizing signage will result in a stronger message with less visual intrusion.

Air Quality

1. Project construction would be conducted in accordance with all federal, state and local regulations that govern construction activities and emissions from construction vehicles.
2. Pregrading/excavation activities will include watering the area to be graded or excavated before commencement of grading or excavation activities.
3. All trucks will be required to cover their loads as required by California Vehicle Code § 23114.
4. All grading and excavation material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, will be treated to prevent fugitive dust. Treatment will include, but not necessarily be limited to, periodic watering, application of environmentally-safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary and reclaimed water used whenever possible.
5. Minimize equipment idling time.
6. Maintain equipment engines in good condition and in proper tune as per manufacturers' specifications.
7. Lengthen the construction period during smog season (May through October), to minimize the number of vehicles and equipment operating at the same time.

Biological

1. Any vegetated area that is disturbed on the downstream side of the bridge will be re-vegetated using material propagated from local stock, defined as a two-mile radius around the Hwy.

1/Calleguas Creek Bridge. (The area upstream of the bridge will not be re-vegetated because it is subject to periodic mowing by the Ventura County Flood Control District). The parameters of the re-vegetation plan, including species, location, timing and plant establishment period will be sent to all resource agencies as part of the permit applications.

2. Monitoring will be done annually, during the fall.
3. Reports will be written on an annual basis, with a final five-year report submitted and including all annual reports as well as final recommendations.
4. If warranted, appropriate mitigation for impacts to the BSS will be developed in coordination with the CDFG.
5. Permanent wetland impacts will be mitigated offsite. This might take the form of a transfer of fees to an outside entity for exotic plant removal, or to the California Coastal Conservancy for use in their efforts to restore the Calleguas Creek Watershed. The details of this mitigation will be provided at the time resource agency permits are obtained.
6. If the top layer of contaminated soil is removed from the work area, this can be considered as mitigation for disturbance to the creek bed.
7. Caltrans, in coordination with the resource agencies, will develop an appropriate method for isolating and de-watering the work area that will minimize the potential impacts to water quality. Special emphasis will be placed on reducing the amount of re-suspended sediment that is allowed to flow downstream of the work area. The agreed-upon methodology will be incorporated into the Special Provisions for this project. One potential method that has been discussed involves the following:
 - i. Use water dams to isolate the work area (approximately 2/3 of the width of the channel at one time).
 - j. At low tide, a backhoe (or another suitable piece of equipment) will be used to remove the top layer of contaminated soil (depth to be determined later) where the dams will be placed.
 - k. Following installation of the dams, the work area will be de-watered by an appropriate method (still to be determined).
 - l. After de-watering is complete, the top layer of contaminated sediment (and the accumulated sediment in the outer bays on each side) will be removed. The channel will be backfilled with clean fill material to provide a contaminant-free work area.
 - m. Equipment and personnel will enter the channel as needed to perform the work.
 - n. When work is completed, the dams will be removed at low tide and installed using the above methods to allow for work on the remaining piers.
 - o. Dam removal might include partially filling the water dam enclosure with water prior to removal to reduce turbulence and the initial "slug" of sediment/contaminant flowing downstream.
 - p. A monitor will be present during the installation and removal of the water dams to ensure that proper precautions are taken and to respond to any problems that might arise.
8. A Water Pollution Control Plan will be developed by the contractor, and approved by Caltrans and the state and federal resource agencies. This Plan will incorporate the resource agency approved methodology as well as all other appropriate techniques for reducing impacts to water quality.
9. Exclusionary fencing will be installed in upland areas to denote the limits of the project area and to prevent the southwestern pond turtle or other species from entering the work area.
10. The generator for the pile driver will be located as far from BSS habitat as is feasible and will be shielded by an enclosure to minimize noise levels.

11. The contractor will be required to minimize noise from the pile driving operation to the greatest extent practicable.
12. If at any time during construction, sensitive biological resources are found on-site or directly adjacent, work in that area will be stopped until the Resident Engineer, District Biologist and resource agency personnel are called and all concerns are addressed.
13. All equipment operated in or near the creek will be checked daily for fluid leaks prior to beginning work each day.
14. Grubbing of vegetation will be kept to the minimum necessary to complete the work.
15. All vegetation to be grubbed will be cut to ground level and not uprooted. This will allow for stump sprouting in those species capable of doing so. It will also help stabilize the soil and reduce erosion.
16. An educational session for workers on sensitive biological resources that have the potential to be found in the work area will be conducted prior to initiating construction at the bridge.
17. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, metal shavings, or any other substances which could be hazardous to aquatic life shall be prevented from contaminating the soil and/or entering the waters of the State as a result of this project.
18. All other applicable Best Management Practices will be implemented.

CULTURAL RESOURCES

1. The contractor shall pay for a Native American Monitor (a representative of the traditional tribe of the area) during the excavation phase of construction. Additionally, a Caltrans archaeologist shall be invited to meet with these individuals prior to the start of construction to discuss the requirements necessary to ensure compliance with Caltrans policy.
2. If buried cultural materials are encountered during construction work in the area will halt until a Caltrans archaeologist can evaluate the nature and significance of the find.
3. If human remains are exposed during construction, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made the necessary findings as to origin and disposition, pursuant to Public Resources Code 5097.98. The District 7 Environmental Planning Branch shall immediately be notified.

GEOLOGY AND SOILS

1. All bridges and other structures would be designed to resist the maximum credible earthquake without collapse, structural damage or traffic obstruction.

HAZARDS AND HAZARDOUS MATERIALS

1. Limit the scope of work when pier columns are to be installed, thereby reducing disturbance of the creek,
2. Reduce working period when the job involves to disturb the creek, and
3. Coordinate with the U.S. Fish & Wildlife Service- Ventura Field Office for consultation when selecting the working season because several protected animals may appear in a specific season
4. Sediments will be tested during the construction work instead of before work is initiated. Soil will be properly disposed of at an appropriate permitted disposal facility.

5. If Lead (Pb) contaminated soil will be reused in this project, Caltrans needs to provide a soil report for lead which includes lead contaminated level and deposited location to the LARWQCB at least 30 days before the project is advertised. Caltrans will prepare the NOC.
6. Lead will be placed only in Caltrans right-of-way. Based on concentration levels, the waste will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt cover and will always be five feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers. This includes any persons engaged in maintenance work in areas where that waste has been buried and covered.
7. Based upon the VISTA information, many leaking underground storage tank (LUST) cases were reported in the downstream of Calleguas Creek, inside the Navy Base. The presence of these LUSTs at downgradient locations do not appear to present a significant environmental concern to the project site.

HYDROLOGY AND WATER QUALITY

1. For project constructed in a total disturbed area of less than one (1) acre, use WPCP and SSP 07-340,
2. For projects with a total disturbed area more than one (1) acre, use SWPPP, SSP 07-345 and an NOC.
3. A Water Pollution Control Plan will be developed by the contractor, and approved by Caltrans and the state and federal resource agencies. This Plan will incorporate the resource agency approved methodology as well as all other appropriate techniques for reducing impacts to water quality.
4. The water pollution control plan will incorporate control measures in the following categories: Soil stabilization practices; sediment control practices; sediment tracking control practices; wind erosion control practices; and non-storm water management and waste management and disposal control practices

NOISE

1. All diesel equipment shall be operated with closed engine doors and shall be equipped with factory recommended mufflers.
2. For all noise generating construction activity on the project site, additional noise attenuation techniques shall be employed, as needed and feasible, to reduce noise levels. Such techniques may include, but are not limited to, the use of sound blankets on noise generating equipment and construction of temporary sound barriers between construction sites and nearby sensitive receptors.

TRANSPORTATION/TRAFFIC

1. Provide Traffic Management Plan (TMP) for the control and safety of traffic, temporary traffic detour schemes, access plans, and temporary traffic control signs and signals would be developed in detail in conjunction with local officials during the final design phase of the project.

5.0 CONSULTATION AND COORDINATION

5.1 Scoping Process

The California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) do not require formal scoping for projects where an Initial Study/Environmental Assessment (IS/EA) is the appropriate document. However in light of the project's regional significance efforts were undertaken to ensure that the concerns of the cities and other parties were known.

A 30-day scoping period was allocated to ensure that all concerns were presented to the department for consideration and inclusion in the environmental studies. Scoping letters were mailed on October 2, 1998 to elected officials, governmental agencies and other resource agencies surrounding the project limits as well as all individuals and department entities that expressed concern and interest earlier in the process. The public notices (Appendix F) were published in the following newspapers.

- Los Angeles Times Ventura Edition on October 8, 1998 and October 14, 1998
- Ventura County Star on October 8, 1998 and October 14, 1998
- Ventura County Spanish newspaper Vida on October 8, 1998

The deadline for submittal of responses to Caltrans was set for November 9, 1998. During the Scoping period, comments were received from members of the public, local and federal agencies. Issues raised in the comments are listed below:

- Potential of increased traffic volumes resulting in higher speeds, increased noise
- Impact on re-suspension of contaminated sediments

5.2 Consultation

Caltrans cultural resource specialist had telephone contacts and sent scoping letters with individuals knowledgeable about the Archaeology site CA-VEN-110. Personal contacts were made with Mr. Executive Director of the Oakbrook Park Chumash Interpretive Center and Mr. Gilbert Unzueta of the Chumash Tribe. An agreement was made to have a Native American monitor present at the site during construction. Also, a scoping meeting was held on June 12, 2000 with USFWS, CDFG, ACOE and NAS Pt. Mugu. CDFG expressed that they require a buffer zone of 300 to 500 ft around any active least Bell's vireo nests, and may Caltrans be able to apply this standard to the Belding's savannah sparrow (BSS).

Consultation and coordination by Caltrans District 7 with the following agencies and jurisdictions has occurred throughout the project.

- US Fish & Wildlife Service Ventura Office
- California Department of Fish and Game (CDFG)
- County of Ventura
- California Coastal Commission
- Ventura County Agricultural Commission
- Santa Monica Mountains Conservancy

- Santa Monica Mountains National Recreation Area
- California Coastal Conservancy
- California Regional Water Quality Control Board (RWQCB)
- Ventura County Air Pollution Control District
- U.S Army Corps of Engineers (ACOE)
- U.S. Naval Air Station – Point Mugu
- Calleguas Creek Water District
- Ventura County Transportation Commission
- Natural Resources Conservation Service
- Oakbrook Park Chumash Interpretive Center

5.3 Public Circulation

This IS/EA document is being circulated for public comment. Public notices announcing circulation and availability of the document will be published in appropriate local newspapers and Caltrans website (http://www.dot.ca.gov/dist07/aboutdist7/projects/hwy1_calleguas/).

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6.0 LIST OF PREPARERS

<u>Name</u>	<u>Title</u>	<u>Function</u>
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Andrea Morrison	Environmental Planner	Architectural History
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Leann Williams	Sr. Transportation Planner	Air Quality Conformity
Fouad Abdelkerim	Sr. Environmental Planner	Air Quality Study
Dave Gilstrap	Sr. Transportation Planner	Traffic Forecasting (LARTS)
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Curtis Johnson	Landscape Architect	Visual Impact Analysis
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Jerrel Kam	District Hydraulic Engineer	Hydraulics
John Scott	Sr. Transportation Engineer	Project Management
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